YUMA
International Airport

Chapter Five
AIRPORT PLANS

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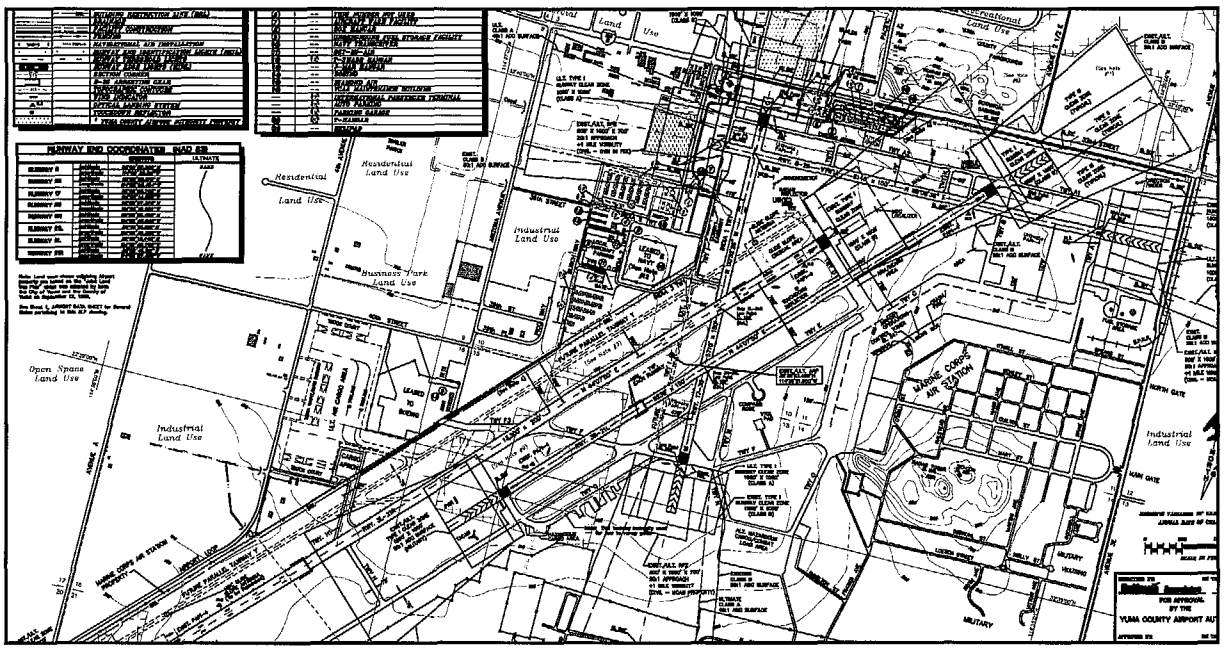
YUMA International Airport



The airport master planning process has evolved through several analytical efforts in the previous chapters intended to analyze future aviation demand, establish airside and landside facility needs, and evaluate options for the future development of the airside and landside facilities. The planning process, thus far, has included the presentation of four draft working papers, representing the first four chapters of the master plan, to the Planning Advisory Committee (PAC) and Yuma County Airport Authority (YCAA) staff. The recommended master plan concept did not evolve until the PAC and YCAA officials had the opportunity to submit comments on the draft working papers. Having completed this review process, the development alternatives have now been refined into a single recommended master plan concept. The purpose of this chapter is to describe in narrative and graphic form, the recommended direction for the future civilian use and development of Yuma International Airport.

RECOMMENDED MASTER PLAN CONCEPT

The recommended master plan concept provides for anticipated facility needs over the next twenty years and will accommodate aviation demand for southwestern Arizona and southeastern California well beyond this period. The following sections summarize airside and landside recommendations.

AIRSIDE RECOMMENDATIONS

Airside recommendations include improvements for taxiways, instrument approaches, and airfield lighting. Airside recommendations are as follows:

- **Extend Taxiway I to the Runway 35 end.** Presently, Taxiway I only extends to approximately the midpoint of Runway 17-35. Extending Taxiway I to the Runway 35 end would enhance airfield safety by providing parallel taxiway access for the full-length of Runway 17-35 and provide efficient and direct access between landside facilities and the Runway 35 end.

- **Construct parallel taxiway and acute-angled exits along the north side of Runway 3L-21R.** The need for this taxiway will be driven by the number of civilian aircraft operations and mix of aircraft using the parallel runway system. A parallel taxiway would provide safe and efficient access to civilian facilities for large aircraft which cannot use Runways 17-35 or 8-26 due to insufficient length. Acute-angled exits serve to increase airfield capacity by enabling aircraft to exit the runway at higher speeds than required for right-angled exits, thus reducing runway occupancy time.

- **Establish GPS approaches to Runways 8, 26, 35, and 3L.** Presently, only Runways 17 and 21R have a published instrument approach procedures. Global Positioning System (GPS) approaches will enable aircraft to locate and land to any runway end during poor visibility and cloud ceiling situations.

- **Install REILs to Runways 8, 26, and 17 and VGSIs to Runways 8, 26, and 35.** The addition of runway end identifier lighting (REILs) and visual glideslope indicators (VGSIs) will improve instrument and visual approaches to the airport. REILs aid pilots in identifying the runway end at night and during poor visibility conditions. VGSIs aid pilots in determining the correct descent path to the runway.

- **Install a MALSR to Runway 3L.** Installing a MALSR to the Runway 3L end can provide for a GPS approach with one-half mile visibility minimums (similar to the existing instrument landing system (ILS) approach to Runway 21R).

- **Investigate reclassifying Runways 17-35 and 8-26 from Class B to Class A.** Reclassifying Runways 8-26 and 17-35 as Class A runways would eliminate the existing height limitations within the terminal area and the need for the military to grant waivers for facility construction and air carrier aircraft operations along the terminal apron. Class A criteria is more representative of the type of aircraft presently using Runways 8-26 and 17-35. Runways 17-35 and 8-26 are used primarily by general aviation piston aircraft, air carrier turboprop aircraft, and military helicopter and C-12 turboprop aircraft which fall under Class A criteria. Occasionally, Runway 17-35 is used by AV-8B aircraft during

periods of prevailing north/south wind conditions. While the AV-8B falls under Class B criteria, their use of Runways 17-35 and 8-26 is consistent with military standards which allow for limited operations of Class B aircraft on Class A runways. Since these runways serve primarily civilian operations, the Yuma County Airport Authority (YCAA) may wish to explore the transfer of ownership of Runway 8-26, Runway 17-35, and associated parallel taxiways and connecting taxiways to Yuma County from MCAS Yuma.

All airfield improvement noted above will need to be coordinated with MCAS Yuma and require MCAS Yuma approval. Any development on the airfield (such as the taxiways and lighting improvements) will require that the YCAA acquire an easement from MCAS Yuma since any development would be on MCAS Yuma property.

LANDSIDE RECOMMENDATIONS

Landside recommendations include improvements for the passenger terminal, air cargo, and general aviation areas; including property acquisition recommendations to ensure the long range viability of civilian operations at Yuma International Airport. Landside recommendations are as follows:

- **Continue to reserve 80 acres west of Runway 3L-21R for air cargo development.** Expand existing apron to the west to allow for building development along the south side of the apron. Develop additional connecting taxiway to Runway 3L-21R.

- **Relocate general aviation facilities within the existing terminal area to the west general aviation area.** Presently, there are two aircraft storage hangars, a Fixed Based Operator (FBO) facility, and 27 tiedowns located west of the existing passenger terminal building and terminal apron. Relocating these facilities at the end of their lease period will ultimately provide for expansion of terminal building and automobile parking facilities and consolidate all general aviation activities west of Runway 17-35.

- **Expand passenger terminal area parking areas to the west to meet short and intermediate parking needs. Construct parking garage to accommodate long term automobile parking needs.** Subsequent to the relocation of the general aviation facilities listed above, the public parking lot can be expanded to the west to accommodate terminal automobile parking needs. An additional 280 long term and short term public parking spaces can be developed by redeveloping the area currently occupied by general aviation facilities. By expanding the terminal area access road to the west, the expanded parking areas will continue to be served by existing exits and collection booths. A parking garage is anticipated to meet long term public, rental car, and terminal employee parking needs. The lower level of the parking garage should be

reserved for rental car ready/return needs.

- **Reserve an area west of the existing terminal building for the development of an international terminal building.** The airport has been served by international passenger service in the past. Therefore, it is prudent to consider potential international air service in long term terminal area planning. It is recommended that international air carrier passenger service be accommodated in a separate building located west of the existing terminal building to ensure security and segregation from domestic passenger service. This also allows for the expansion and maximum utility of the new passenger terminal building for domestic passenger service needs.

- **Expand existing terminal building as needed.** The design of the new terminal building provides for ticketing and bag claim expansion. While expansion is not anticipated during the planning period, the potential exists to provide additional ticketing and bag claim areas should additional air carriers begin serving the airport and passenger levels exceed long term projections.

- **Construct additional enclosed aircraft storage hangars to accommodate increased based aircraft levels.** The vacant area along the south side of the west general aviation apron is recommended for initial enclosed T-hangar development. A total of 70 T-hangars can be accommodated in this area. The purchase of approximately 17 acres of land along Fortuna Avenue (contiguous with the north side of the west general aviation apron) is recommended to accommodate long term T-hangar and conventional hangar needs.

- **Construct additional conventional (clearspan) hangars for large aircraft storage and aircraft maintenance.** These type of hangars are typically used by fixed based operators (FBOs) to conduct aircraft maintenance, charter, and flight training activities. Approximately 42,000 square feet of additional space is anticipated through the planning period. The north general aviation apron area (along Fortuna Avenue) is recommended to be expanded and Fortuna Avenue realigned to provide for the development of additional conventional hangars and automobile parking areas (provided 17 acres of land is acquired west of Fortuna Avenue). These facilities are expected to be constructed privately by the company providing FBO services.

- **Acquire approximately 610 acres of land through the planning period to accommodate long term growth.** Much of the existing YCAA property is expected to be developed over the planning period to accommodate expected aviation growth. The acquisition of this property is needed to ensure adequate property is available to accommodate civilian facility needs beyond the planning period of this

master plan. Local economic growth and development are placing pressures on land adjacent to the airport. An aggressive acquisition program will ensure the long term viability for civilian operations at Yuma International Airport by providing for long term facility expansion and development. Purchasing property now will prevent costly redevelopment at a later date.

AIRPORT LAYOUT PLANS

The remainder of this chapter provides a brief description of the official layout drawings for the airport that will be submitted to the FAA for review and approval. These plans, referred to as the Airport Layout Plans, have been prepared to graphically depict the ultimate airfield layout, facility development, and imaginary surfaces which protect the airport from hazards. This set of plans includes:

- Airport Layout Drawing
- Terminal Area Plan
- General Aviation Area Plan
- Air Cargo Facility Plan
- Airspace Plan
- Approach Surface Plan

The airport layout plan set has been prepared on a computer-aided drafting system for future ease of use. The computerized plan set provides detailed information of existing and future facility layout on multiple layers that permits the user to focus in on any section of the airport at a desirable scale. The plan can be used as base information for design, and can be easily updated in the future to reflect new development and more detail concerning existing conditions as made available through design surveys. The airport layout plan set is submitted to the Federal Aviation Administration (FAA) for approval and must reflect all future development for which funding is anticipated. Otherwise, the proposed development will not be eligible for federal funding. Therefore, updating these drawings to reflect changes in existing and ultimate facilities is essential.

AIRPORT LAYOUT DRAWINGS

The Airport Layout Drawing (ALD) (Sheet 2 of 10) graphically presents the existing and ultimate airport layout. Detailed airport and runway data are provided to facilitate the interpretation of the master plan recommendations. Both airfield and landside improvements are depicted.

The Terminal Area Plan (Sheet 3 of 10), Air Cargo Facility Plan (Sheet 4 of 10), and General Aviation Plan (Sheet 5 of 10) provide greater detail concerning improvements within each of these areas at the airport.

AIRSPACE PLAN AND APPROACH PROFILES

Since MCAS Yuma has jurisdiction over the airfield, miliary standards will be applied to the runways and surrounding airspace. In general, the military standards exceed any civilian standard set forth by the Federal Aviation Administration.

The Airspace Plan (Sheet 6 of 10) is a graphical depiction of the imaginary surfaces set forth in *NAVFAC P-80.3, Facility Planning Factor Criteria for Navy and Marine Corps Shore Installations* and *Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace.* These standards were developed to protect the airspace around the airport and approaches to each runway end from hazards that could affect the safe and efficient operation of aircraft arriving and departing the airport. The Airspace Plan is a tool to aid local authorities in determining if proposed development could present a hazard to the airport and obstruct the approach path to a runway end.

Imaginary Surfaces

The Airspace Plan assigns three-dimensional imaginary areas to each runway. These imaginary surfaces emanate from the runway centerline and are dimensioned according the **runway classification**. Runway classification is dependent upon the type of aircraft which operate from the runway. NAVFAC P-80.3 defines Class A runways as runways primarily used by small light aircraft, which do not have the potential for development for use by heavier aircraft, are less than 8,000 feet long, and have operations by aircraft within Class B less than 10 percent of the time. Class B covers all other runways and aircraft.

Presently, Class B criteria is applied to all runways at Yuma International Airport. This Master Plan recommends investigating reclassifying Runways 17-35 and 8-26 to Class A from Class B. As mentioned previously, Class A is more representative of the civilian and military use of these runways. Additionally, applying Class A criteria to these runways would eliminate the need for the military to grant waivers for aircraft operations along the terminal apron and for facility development within the terminal area.

The imaginary surfaces used to protect the aircraft from hazards to navigation include the primary surface, approach-departure clearance surface, inner horizontal surface, conical surface, outer horizontal surface, and transitional surface. These imaginary surfaces are described in the following paragraphs.

- PRIMARY SURFACE

The primary surface is an imaginary surface longitudinally centered on the runway. The primary surface extends 200 feet beyond each runway end. The elevation of any point on the primary surface is the same as the elevation along the nearest point on the runway centerline. The width of the primary surface is a follows: 1,000 feet for Class A runways, 1,500 feet for Class B runways constructed prior to June, 1981, and 2,000 feet for all other Class B runways. The existing primary surface for each runway at the airport are 1,500 feet wide. Should Runways 17-35 and 8-26 be reclassified as Class A runways, the primary surface for these runways would be 1,000 feet wide.

- APPROACH-DEPARTURE SURFACE

The approach-departure surfaces for each runway are intended to protect the safety of aircraft arriving and departing the airport and prohibit the growth of natural objects or the construction of objects which could present an obstruction to approach and departure paths to each runway end. The approach surface for Class A and Class B runways are made up of two segments. The first segment begins at the same width as the primary surface and extends upward and outward from the primary surface end (200 feet from the runway end) and is centered along an extended runway centerline. The second segment is a horizontal segment.

For Class A runways, the first segment of the approach-departure surface extends outward and upward from the primary surface at a slope of 40 to 1 to a width of 16,000 feet at an elevation 500 feet above the airfield elevation. It then continues horizontally to a point 50,000 feet from the point of beginning. For Class B runways, the first segment of the approach-departure surface extends outward and upward from the primary at a slope of 50 to 1 to a width of 16,000 feet at an elevation 500 feet above the airfield elevation. It then continues at this elevation for a distance of 50,000 feet from the point of beginning.

The Airspace Plan provides a planemetric view of the approach-departure surface. The Approach Profiles (Sheets 7 and 8 of 10) depict the physical features in the approach-departure surface profile.

- TRANSITIONAL SURFACE

Each runway has a transitional surface that begins at the outside edge of the primary surface at the same elevation as the runway. The transitional surface connects the primary surface and approach-departure surface to the inner horizontal surface, conical surface, and outer horizontal surface. The transitional surface rises at a slope seven to one.

- INNER HORIZONTAL SURFACE

The inner horizontal surface is established at 150 feet above the highest elevation of the runway surface. Having no slope, the inner horizontal surface connects the transitional and approach-departure surfaces to the conical surface at a distance of 7,500 feet from the runway end.

- CONICAL SURFACE

The conical surface begins at the outer edge of the inner horizontal surface, extending outward and upward at a slope of 20 to 1, for 7,000 feet, to a height 500 feet above the airfield elevation.

- OUTER HORIZONTAL SURFACE

The outer horizontal surface begins at the outer edge of the conical surface and extends for a distance of 30,000 feet at an elevation 500 feet above the airfield elevation.

RUNWAY PROTECTION ZONE PLANS

The Runway Protection Zone Plans (Sheets 9 and 10 of 10) are scaled drawings of the runway protection zone (RPZ) and clear zones for each runway end. A plan and profile view of the inner portion of the approach-departure surface is also provided to facilitate identification of obstructions that lie within this area. Detailed obstruction and facility data is provided to identify planned improvements and the disposition of obstructions.

The runway protection zone (RPZ) is a FAA defined imaginary surface which functions to enhance the protection of people and property on the ground. The RPZ should be under the control of the airport to allow for the RPZ to be cleared, and maintained clear, of incompatible objects and activities. The RPZ is trapezoidal in shape and dimensioned according to the runway visibility minimums. For Runways 17-35 and 8-26 (which currently have visual approaches), the RPZ is dimensioned as follows: 500 feet wide 200 feet from the runway threshold, 1,000 feet long, 700 feet wide 1,200 feet from the runway threshold. The planned GPS approaches to each end of Runways 17-35 and 8-26 do not change the size of the RPZ. The RPZs for Runways 3L-21R and 3R-21L are dimensioned as follows: 1,000 feet wide 200 feet from the runway threshold, 2,500 feet long, and 1,750 feet wide 2,700 feet from the runway threshold. All RPZs currently fall within the YCAA and/or MCAS-Yuma property line.

The clear zone is a military imaginary surface centered on the runway centerline to provide aircraft overrun areas and unrestricted visibility of airfield lighting. There are three types of clear zones (Types I, II, and III) which are dimensioned according to the runway classification and have varying levels of restrictions on land use.

Type I clear zones are located immediately adjacent to the end of the runway. These areas should be cleared, graded, and free of above ground objects (except lighting aids). A paved overrun area is required. For Class A runways, the Type I clear zone is 1,000 feet wide by 1,000 feet long centered on the runway centerline. For the Class B runways at the airport, the Type I clear zone measures 1,500 feet wide by 1,000 feet long.

Type II clear zones are used only on Class B runways and are essentially an extension of the Type I clear zone. The Type II clear zone should be graded and cleared of all above ground objects except airfield lighting. The Type II clear zone for runways at the airport are 500 feet wide by 2,000 feet long.

Type III clear zones are located adjacent to the Type II clear zones used on Class B runways and in lieu of Type II clear zones on Class A runways. The Type III clear zone extends 2,000 feet beyond the outer edge of the Type I clear zone on Class A runways and is 1,000 feet wide. The Type III clear zone for Class B runways is trapezoidal in shape and measures approximately 500 feet wide at the outer limits of the Type I clear

zone and 900 feet wide 2,000 feet from the outer limits of the Type I clear zone. A Type III clear zone is located on each side of the Type II clear zone on Class B runways.

SUMMARY

The airport layout plan set is designed to assist the YCAA in making decisions relative to future development and growth of civilian aeronautical activities at Yuma International Airport. The plan provides for development to satisfy expected airport needs over the next twenty years (and well beyond). Flexibility will be a key to future development since activity may not occur exactly as forecast. The plan has considered demands that could be placed upon the airport even beyond the twenty year planning period to ensure that the facility is capable of accommodating a variety of circumstances. The ALP set also provides the YCAA with options to pursue in marketing the assets of the airport for community development. Following the general recommendations of the plan, the airport can maintain it's long term viability and continue to provide civilian air transportation services to the region without disruption or interference with the military mission of MCAS.

YUMA

International Airport

INDEX OF DRAWINGS

Yuma County Airport Authority
Yuma County, Arizona

Coffman Associates
Airport Consultants

RUNWAY DATA	RUNWAY 8-26		RUNWAY 17-35		RUNWAY 3R-21L		RUNWAY 3L-21R	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
RUNWAY CATEGORY/AIRCRAFT DESIGN GROUP	B-II (CLASS B)	B-II (CLASS A)	B-II (CLASS B)	B-II (CLASS A)	D-V (CLASS B)	SAME	E-VI (CLASS B)	SAME
RUNWAY AZIMUTH	89.1439	SAME	359.1261	SAME	44.1325	SAME	44.1325	SAME
RUNWAY BEARING	N 89°08'38' E	SAME	N 00°52'26" W	SAME	N 44°07'50" E	SAME	N 44°07'50" E	SAME
RUNWAY DIMENSIONS	6145' x 150'	SAME	5710' x 150'	SAME	9239' x 150'	SAME	13,299' x 200'	SAME
MAXIMUM RUNWAY ELEVATION (above MSL)	213'	SAME	196'	SAME	208'	SAME	195'	SAME
RUNWAY SAFETY AREA (RSA)	6745' x 150'	SAME	6910' x 150'	SAME	11239' x 500'	SAME	15299' x 500'	SAME
RSA DISTANCE BEYOND END OF RUNWAY (RSA)	300'	SAME	300'	SAME	1000'	SAME	1000'	SAME
RUNWAY OBSTACLE FREE ZONE (OFZ)	6545' x 400'	SAME	6710' x 400'	SAME	9639' x 400'	SAME	13699' x 400'	SAME
EFFECTIVE RUNWAY GRADIENT (in %)	0.293%	SAME	0.228%	SAME	0.217%	SAME	0.008%	SAME
RUNWAY PAVEMENT MATERIAL	ASPH.-CONCRETE	SAME	ASPH.-CONCRETE	SAME	ASPH.-CONCRETE	SAME	CONCRETE	SAME
PAVEMENT STRENGTH (in thousand lb..)[2]	63(S), 137(D), 206(DT)	SAME	72(S), 171(D), 255(DT)	SAME	162(S),200+(D),400+(DT)	SAME	103(S),200+(D),400+(DT)	SAME
RUNWAY LIGHTING	HIRL	SAME	HIRL	SAME	HIRL	SAME	HIRL	SAME
RUNWAY MARKING	VISUAL/VISUAL	SAME	NON-PREC/NON-PREC	SAME	NON-PREC/NON-PREC	SAME	PREC/PREC	SAME
RUNWAY APPROACH LIGHTING		SAME	N/A	SAME	N/A	SAME	N/A	SAME
RUNWAY THRESHOLD DISPLACEMENT	NONE	SAME	NONE	SAME	NONE	SAME	NONE	SAME
RUNWAY INSTRUMENTATION	VISUAL/VISUAL	SAME	NON-PREC/NON-PREC	SAME	NON-PREC/NON-PREC	SAME	PREC/PREC	SAME
RUNWAY STOPWAY	N/A	SAME	N/A	SAME	N/A	SAME	N/A	SAME
WIND COVERAGE (in %)	91.7% 12 MPH/96.1% 15 MPH	SAME	95.3% 12 MPH/97.9% 15 MPH	SAME	90.2% 12 MPH/95.3% 15 MPH	SAME	90.2% 12 MPH/95.3% 15 MPH	SAME
TOUCHDOWN ZONE ELEVATION	201'/213'	SAME	196'/189'	SAME	188'/208'	SAME	195'/193'	SAME
APPROACH VISIBILITY MINIMUMS	+1 MILE/+1 MILE	SAME	+1MILE/+1MILE	SAME	+1 MILE/+1 MILE	SAME	+1 MILE/+1 MILE	SAME
FAR PART 77 CATEGORY	VISUAL/VISUAL	SAME	NON-PREC/NON-PREC	SAME	NON-PREC/NON-PREC	SAME	PREC/PREC	SAME
TAXIWAY LIGHTING	MITL	SAME	MITL	SAME	MITL	SAME	MITL	SAME
TAXIWAY PAVEMENT MATERIAL	ASPHALT/CONCRETE	SAME	ASPHALT/CONCRETE	SAME	ASPHALT/CONCRETE	SAME	ASPHALT/CONCRETE	SAME
TAXIWAY MARKINGS (PAVED TAXIWAY ONLY)	CENTERLINE	SAME	CENTERLINE	SAME	CENTERLINE	SAME	CENTERLINE	SAME
TAKEOFF RUN AVAILABLE (TORA)	N/A	SAME	N/A	SAME	N/A	SAME	N/A	SAME
TAKEOFF DISTANCE AVAILABLE (TODA)	N/A	SAME	N/A	SAME	N/A	SAME	N/A	SAME
ACCELERATE DISTANCE AVAILABLE (ASDA)	N/A	SAME	N/A	SAME	N/A	SAME	N/A	SAME
LANDING DISTANCE AVAILABLE (LDA)	N/A	SAME	N/A	SAME	N/A	SAME	N/A	SAME
NAVIGATIONAL & VISUAL AIDS	NONE	PAPI-4 (BOTH) REIL (BOTH) GPS (BOTH)	VASI-4 (RWY 17) REIL (RWY 35) TACAN (RWY 17) VOR (RWY 17)	PAPI-4 (BOTH) REIL (BOTH) SAME SAME GPS (BOTH)	ASR OLS [3] PAPI-4 (BOTH)	SAME SAME SAME	ILS (RWY 21R) MALSR (RWY 21R) RNAV (RWY[3] 21R) TACAN (BOTH) OLS ASR/PAR PAPI-4 (BOTH)	SAME SAME SAME SAME SAME SAME SAME GPS (BOTH)

[1]Runway approach surfaces are based on military approach slope standards.
[2]Pavement strengths are expressed in single (S), dual (D), dual tandem (DT), and/or double dual tandem (DDT), wheel loading capacities.
[3]OLS=Optical Landing System
[4]ALP Plan Set drawings depict existing Class B 50:1 ADC Surface for Runway 17, however, actual approach surface clearance is 34:1.

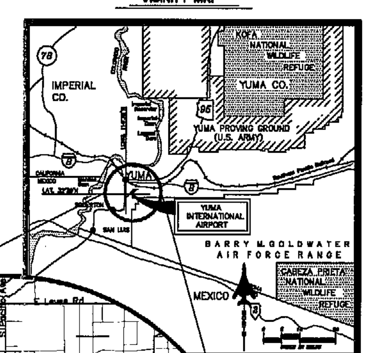
AIRPORT DATA

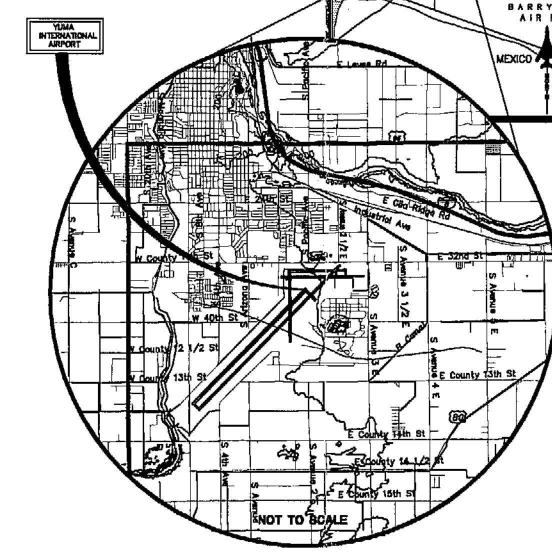
AIRPORT NAME (IDENT): YUMA INTERNATIONAL AIRPORT (YUM)/YUMA MCAS (NYL)			
CITY: YUMA		COUNTY: YUMA, ARIZONA	
RANGE: 23 WEST TOWNSHIP: 9 SOUTH		CIVIL TOWNSHIP: Not Applicable	
		EXISTING	ULTIMATE
NATIONAL PLAN of INTERGRATED AIRPORT SYSTEMS (NPIAS) SERVICE LEVEL		PRIMARY (PR)	SAME
DESIGN AIRCRAFT		BOEING 747 (D-V) MILITARY (E-VI) KING AIR (B-II)	SAME SAME SAME
AIRPORT REFERENCE CODE (ARC):		E-VI	SAME
AIRPORT ELEVATION (ABOVE MEAN SEA LEVEL)		213 MSL	SAME
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		106.6°F (JULY)	SAME
AIRPORT REFERENCE POINT		32°39'23.400"N	SAME
(ARP) COORDINATES (NAD 83)	Latitude	114°36'21.600"W	SAME
AIRPORT and TERMINAL NAVIGATIONAL AIDS	Longitude	VORTAC	SAME
		ILS (RWY. 21R) ROTATING BEACON TACAN ATCT ASR/PAR GPS,VOR/DME (RWY. 17) GPS/RNAV (RWY. 21R)	SAME SAME SAME SAME SAME SAME SAME GPS (RWY's 3L, 8, 26, AND 35)

GENERAL NOTES:

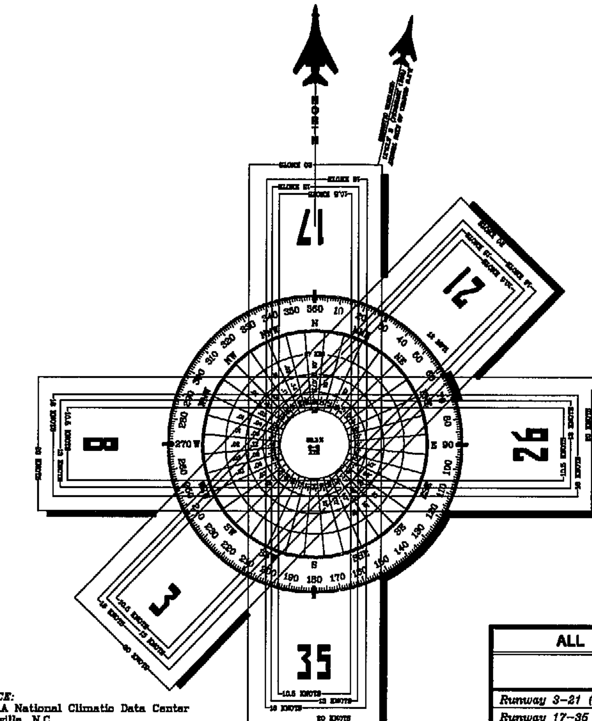
1. Depiction of features and objects, including related elevations within the clear zones, are depicted on the CLEAR ZONES PLANS (Sheets 8 & 9). Military clear zones can consist of three types of clear zones (Type I, II and III) depending on the runway class (Class A or Class B). All of the runways at the airport are presently Class B. Descriptions of these military runway designations and clear zones can be found in Facility Planning Criteria for Navy & Marines Corps Shore Installations, Appendix E, NAVPAC P-80.3, Jan 1982. A typical Class B runway clear zone is illustrated on Runway 21L (Sheet 2). In the interest of reducing clutter on the ALP, only the Type I clear zones are depicted and the trapezoidal area that includes all the Type I, II or III clear zones, are illustrated throughout the plan set.
2. Details concerning terminal improvements at Yuma International Airport are depicted on the TERMINAL AREA PLAN (Sheet 3), AIR CARGO FACILITY PLAN (Sheet 4) and GENERAL AVIATION AREA PLAN (Sheet 5).
3. Yuma International Airport property was released by the Secretary of the Interior to Yuma County through a Joint-Use Patent issued pursuant to the Federal Airport Act – 1946 and Executive Order 10536, June 9, 1954. The Yuma International Airport property controlled by the Yuma County Airport Authority is delineated on the ALP.
4. The Building Restriction Lines (BRL) are set to coincide with the primary surfaces of Runways 3L-21R, 17-35 and 8-26. The allowable height of an object from the BRL to the applicable runway is zero feet. The location and height of an object placed between the BRL and the Property Line will be determined by the F.A.R. Part 77 transition surface slope (7 to 1).
5. Elevations and contours were determined from runway/taxiway/apron construction drawings, U.S.G.S. 7 and 1/2 degree topographic quadrangle maps, and NOAA OC 511, Sept. 1989. A field survey should be performed prior to any construction in order to determine the appropriate height for an object.
6. The civil Runway Protection Zones are only illustrated on the ALP to indicate property that isor will be acquired by the Yuma County Authority with assistance from federal or state aviation grants.
7. Waiver Y-10, by authority of the COMNAVSYSCOM, June 17, 1980 reduced the size of the clear zones for Runway 8 and 17.
8. Land under control of MCAS-Yuma by Subordinate Agreement.
9. Land leased to MCAS-Yuma by Yuma County through 2009.
10. Land under avigation easement to MCAS-Yuma, by Yuma County.
11. Land fee purchased by the military (U.S. Department of the Navy).
12. Land leased to MCAS-Yuma, Yuma County through 2020.
13. Land controlled by MCAS-Yuma by Memorandum of Understanding with U.S. Bureau of Reclamation.
14. Aircraft parking in the terminal area is a Part 77 obstruction to the primary surface, of Rwy 8/26. The standard Military Primary surface is 750 ft. from Rwy 8/26 C/L. However currently parking is permitted to within 500ft. of Rwy 8/26 C/L. Recommend reclassification of Rwy 8/26 from Class B to Class A (Military).

VICINITY MAP





AREA MAP

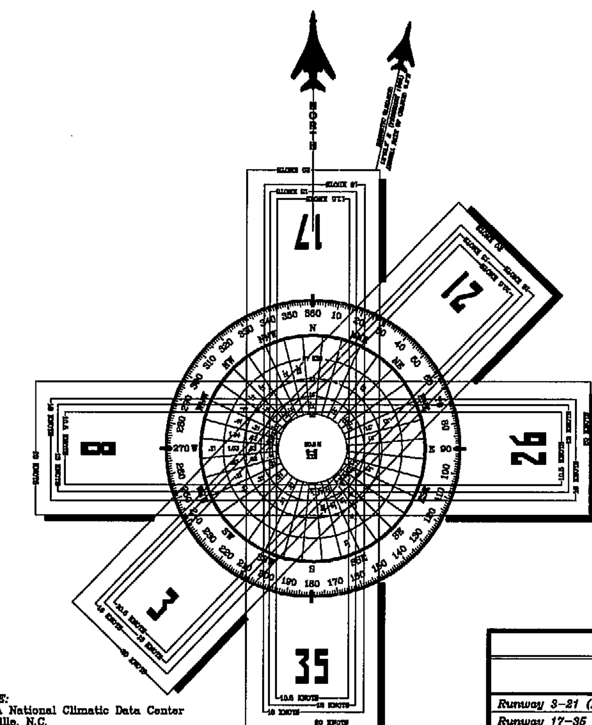


SOURCE:
NOAA National Climatic Data Center
Ashville, N.C.
Yuma International Airport
Yuma, Arizona

OBSERVATIONS:
67,467 All Weather Observations
1987 to 1996

ALL WEATHER WIND ROSE

ALL WEATHER WIND COVERAGE	10.5 Knots (12 MPH)	13 Knots (15 MPH)	16 Knots (18 MPH)	20 Knots (23 MPH)
Runway 3-21 (Both)	93.67%	96.71%	99.17%	99.85%
Runway 17-35	96.97%	98.27%	99.47%	99.86%
Runway 8-26	93.29%	96.15%	99.06%	99.78%
All Runways	99.75%	99.95%	99.99%	99.99%



SOURCE:
NOAA National Climatic Data Center
Ashville, N.C.
Yuma International Airport
Yuma, Arizona

OBSERVATIONS:
484 IFR Observations
1987 to 1996

IFR WIND ROSE

IFR WIND COVERAGE	10.5 Knots (12 MPH)	13 Knots (15 MPH)	16 Knots (18 MPH)	20 Knots (23 MPH)
Runway 3-21 (Both)	84.04%	87.23%	91.84%	95.91%
Runway 17-35	88.58%	90.49%	92.10%	95.10%
Runway 8-26	91.28%	93.92%	96.45%	98.06%
All Runways	98.19%	99.14%	99.71%	99.99%

DEVIATIONS FROM FAA AIRPORT DESIGN STANDARDS

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	STANDARD	ACTUAL	PROPOSED DISPOSITION
NONE				

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	—	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/16/92	—	JPM

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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

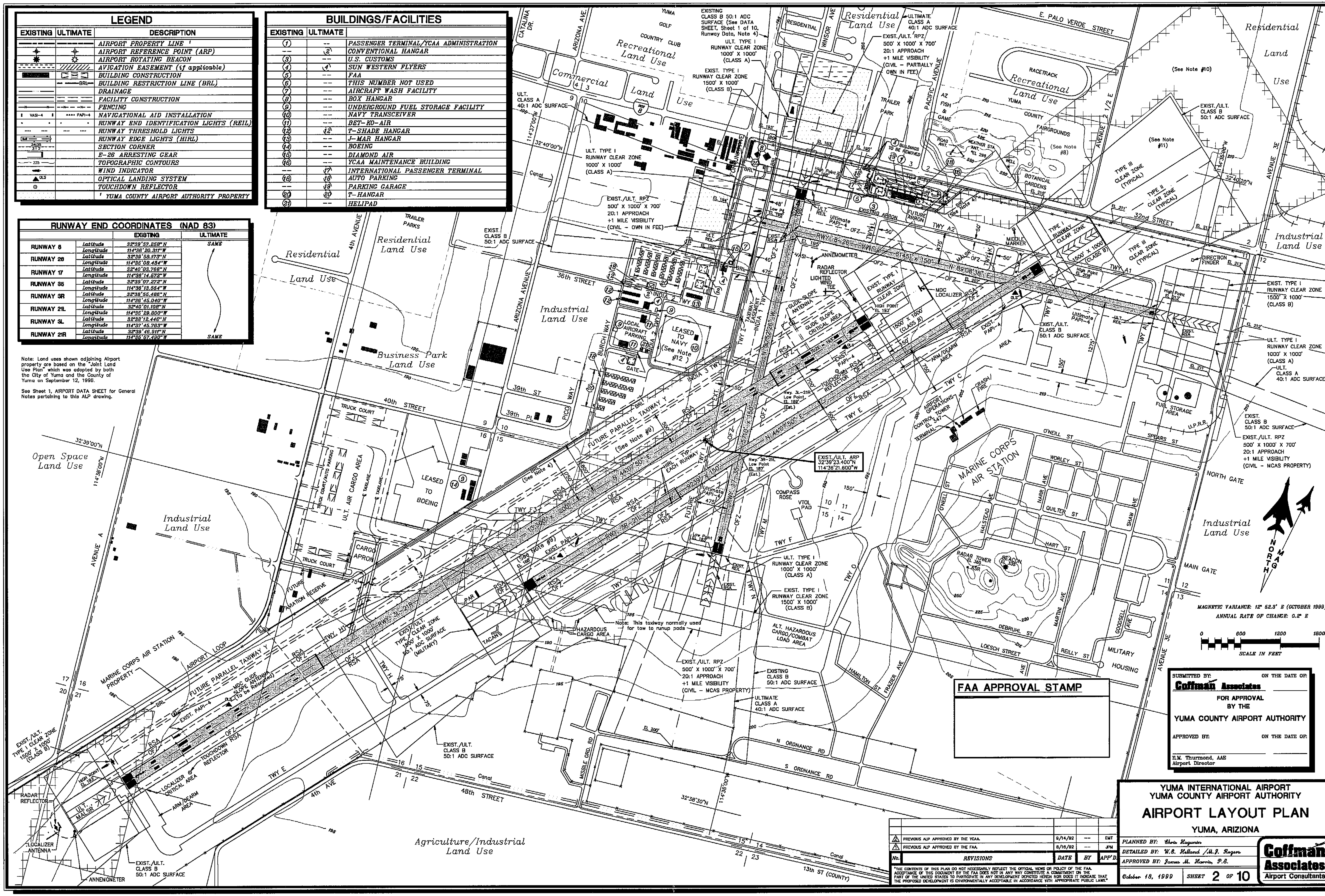
AIRPORT DATA SHEET

YUMA, ARIZIONA

PLANNED BY: Chris Huguenin
DETAILED BY: W.S. Holland/M.J. Rogers
APPROVED BY: James M. Harris, P.E.

October 19, 1999 SHEET 1 OF 10

Coffman Associates
Airport Consultants



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE [1]
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		RUNWAY EDGE LIGHTS (HIRL)
34 35 / 3 2		SECTION CORNER
		E-26 ARRESTING GEAR
225		TOPOGRAPHIC CONTOURS
		WIND INDICATOR
OLS		OPTICAL LANDING SYSTEM
		TOUCHDOWN REFLECTOR
		[1] YUMA COUNTY AIRPORT AUTHORITY PROPERTY

BUILDINGS/FACILITIES

EXISTING	ULTIMATE	
1	--	PASSENGER TERMINAL/YCAA ADMINISTRATION
--	2	CONVENTIONAL HANGAR
3	--	U.S. CUSTOMS
4	4	SUN WESTERN FLYERS
5	--	FAA
6	--	THIS NUMBER NOT USED
7	--	AIRCRAFT WASH FACILITY
8	--	BOX HANGAR
9	--	UNDERGROUND FUEL STORAGE FACILITY
10	--	NAVY TRANSCEIVER
11	--	BET-KO-AIR
12	12	T-SHADE HANGAR
13	--	J-MAR HANGAR
14	--	BOEING
15	--	DIAMOND AIR
16	--	YCAA MAINTENANCE BUILDING
--	17	INTERNATIONAL PASSENGER TERMINAL
18	18	AUTO PARKING
--	19	PARKING GARAGE
20	20	T-HANGAR
21	--	HELIPAD

RUNWAY END COORDINATES (NAD 83)

		EXISTING	ULTIMATE
RUNWAY 8	Latitude	32°39'57.258" N	SAME
	Longitude	114°36'20.311" W	
RUNWAY 26	Latitude	32°39'58.173" N	
	Longitude	114°35'08.494" W	
RUNWAY 17	Latitude	32°40'03.766" N	
	Longitude	114°36'14.673" W	
RUNWAY 35	Latitude	32°39'07.272" N	
	Longitude	114°36'13.554" W	
RUNWAY 3R	Latitude	32°38'55.486" N	
	Longitude	114°36'45.040" W	
RUNWAY 21L	Latitude	32°40'01.108" N	
	Longitude	114°35'29.800" W	
RUNWAY 3L	Latitude	32°38'12.446" N	
	Longitude	114°37'45.763" W	
RUNWAY 21R	Latitude	32°39'46.911" N	
	Longitude	114°35'57.490" W	SAME

Note: Land uses shown adjoining Airport property are based on the "Joint Land Use Plan" which was adopted by both the City of Yuma and the County of Yuma on September 12, 1996.

See Sheet 1, AIRPORT DATA SHEET for General Notes pertaining to this ALP drawing.

FAA APPROVAL STAMP

SUBMITTED BY: Coffman Associates — ON THE DATE OF:
FOR APPROVAL BY THE YUMA COUNTY AIRPORT AUTHORITY
APPROVED BY: — ON THE DATE OF:
E.M. Thurmond, AAE
Airport Director

No.	REVISIONS	DATE	BY	APP'D.
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	--	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/16/92	--	JPM

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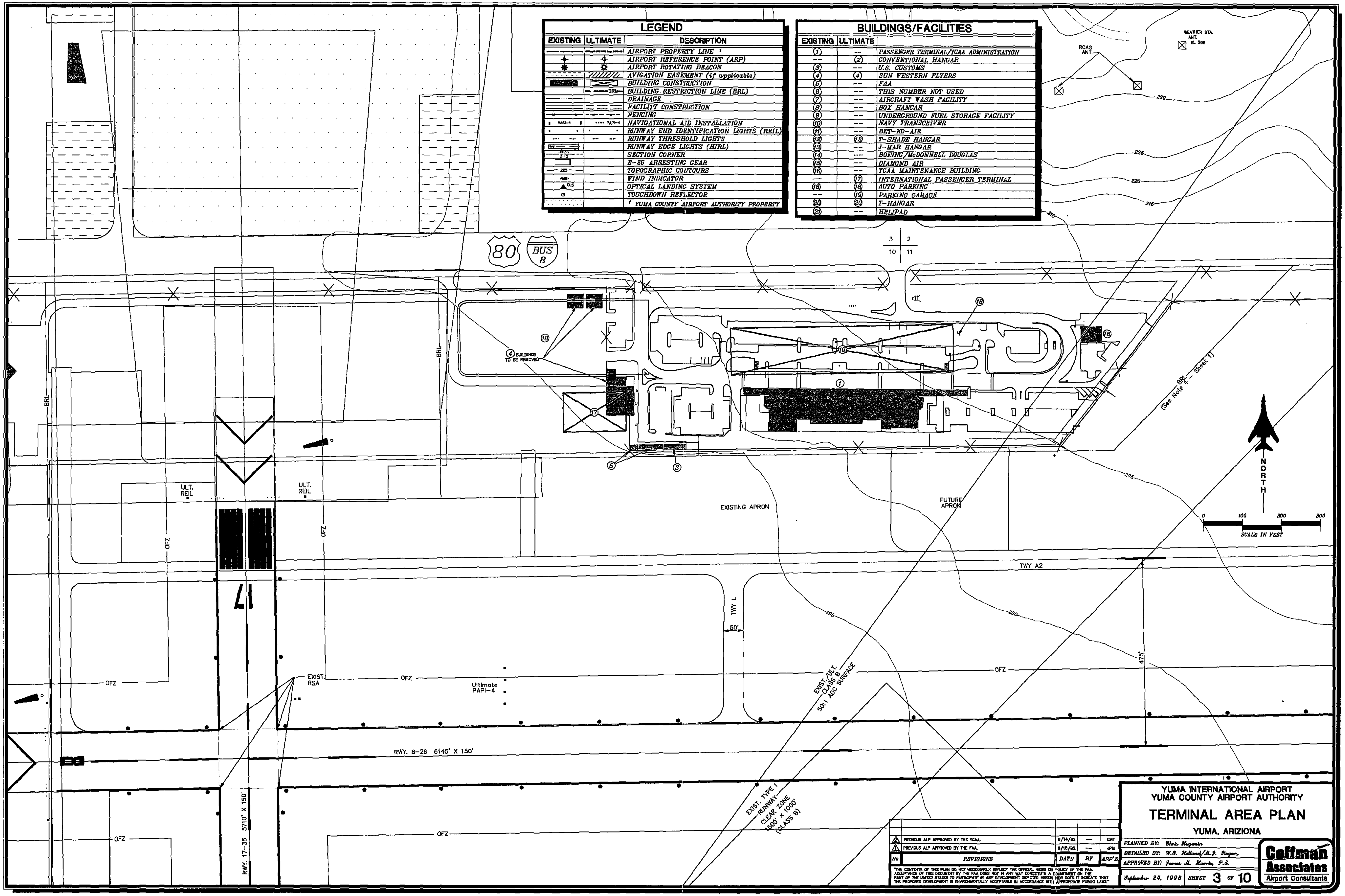
YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY
AIRPORT LAYOUT PLAN
YUMA, ARIZIONA

PLANNED BY: Chris Huguenin
DETAILED BY: W.E. Helland / M.J. Rogers
APPROVED BY: James M. Harris, P.E.
October 18, 1999 — SHEET 2 OF 10

Coffman Associates
Airport Consultants



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE [1]
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		RUNWAY EDGE LIGHTS (HIRL)
34 35 / 3 2		SECTION CORNER
		E-26 ARRESTING GEAR
225		TOPOGRAPHIC CONTOURS
		WIND INDICATOR
OLS		OPTICAL LANDING SYSTEM
		TOUCHDOWN REFLECTOR
		[1] YUMA COUNTY AIRPORT AUTHORITY PROPERTY

BUILDINGS/FACILITIES

EXISTING	ULTIMATE	
1	--	PASSENGER TERMINAL/YCAA ADMINISTRATION
--	2	CONVENTIONAL HANGAR
3	--	U.S. CUSTOMS
4	4	SUN WESTERN FLYERS
5	--	FAA
6	--	THIS NUMBER NOT USED
7	--	AIRCRAFT WASH FACILITY
8	--	BOX HANGAR
9	--	UNDERGROUND FUEL STORAGE FACILITY
10	--	NAVY TRANSCEIVER
11	--	BET-KO-AIR
12	12	T-SHADE HANGAR
13	--	J-MAR HANGAR
14	--	BOEING/McDONNELL DOUGLAS
15	--	DIAMOND AIR
16	--	YCAA MAINTENANCE BUILDING
--	17	INTERNATIONAL PASSENGER TERMINAL
18	18	AUTO PARKING
--	19	PARKING GARAGE
20	20	T-HANGAR
21	--	HELIPAD

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	---	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/18/92	---	JPM

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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

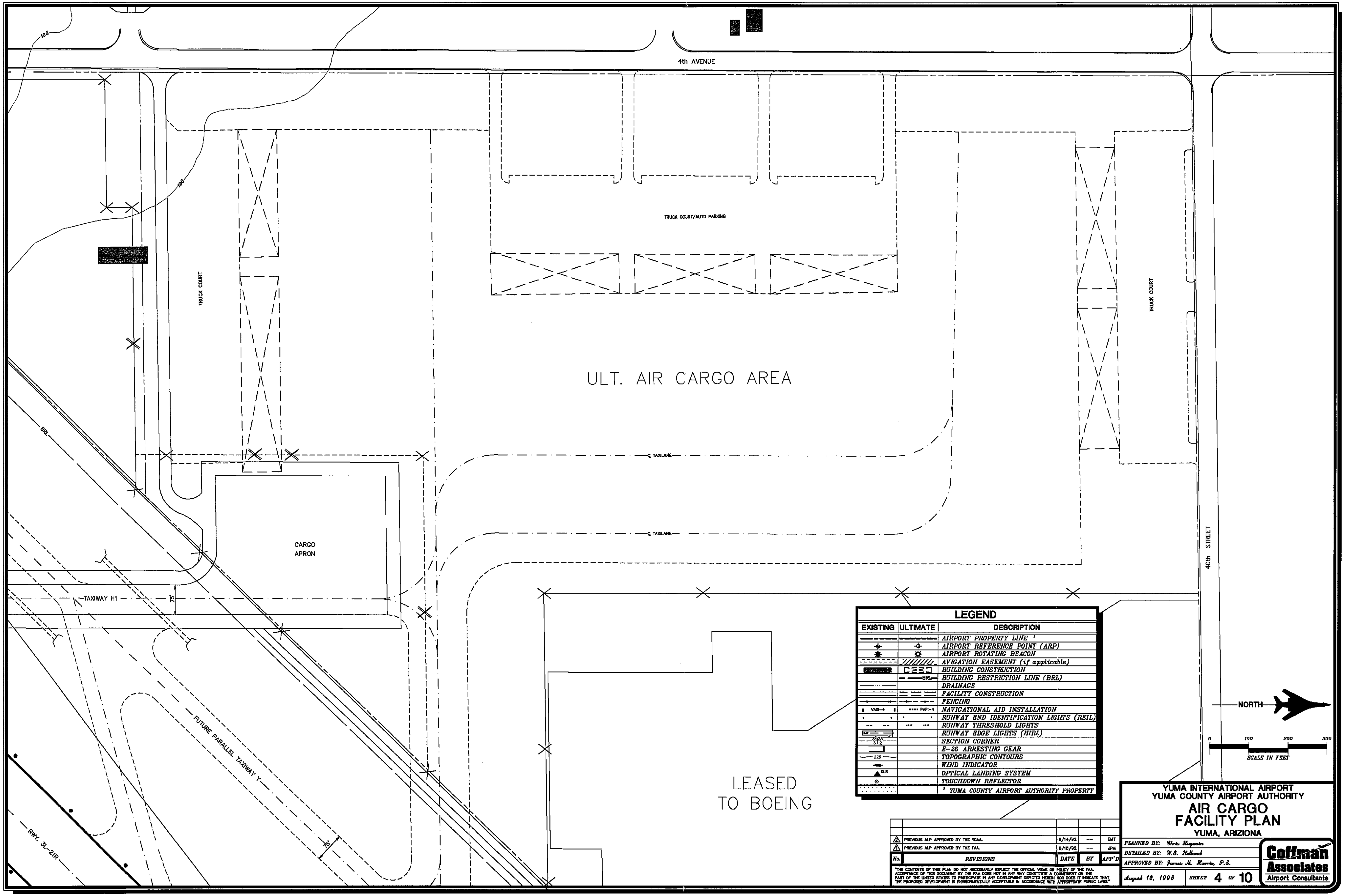
TERMINAL AREA PLAN

YUMA, ARIZIONA

PLANNED BY: Chris Hugunin
DETAILED BY: W.S. Holland/M.J. Rogers
APPROVED BY: James M. Harris, P.E.

September 24, 1998 SHEET 3 OF 10

Coffman Associates
Airport Consultants



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE [1]
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		RUNWAY EDGE LIGHTS (HIRL)
34 35 / 3 2		SECTION CORNER
		E-26 ARRESTING GEAR
225		TOPOGRAPHIC CONTOURS
		WIND INDICATOR
OLS		OPTICAL LANDING SYSTEM
		TOUCHDOWN REFLECTOR
		[1] YUMA COUNTY AIRPORT AUTHORITY PROPERTY

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	--	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	6/15/92	--	JPM

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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

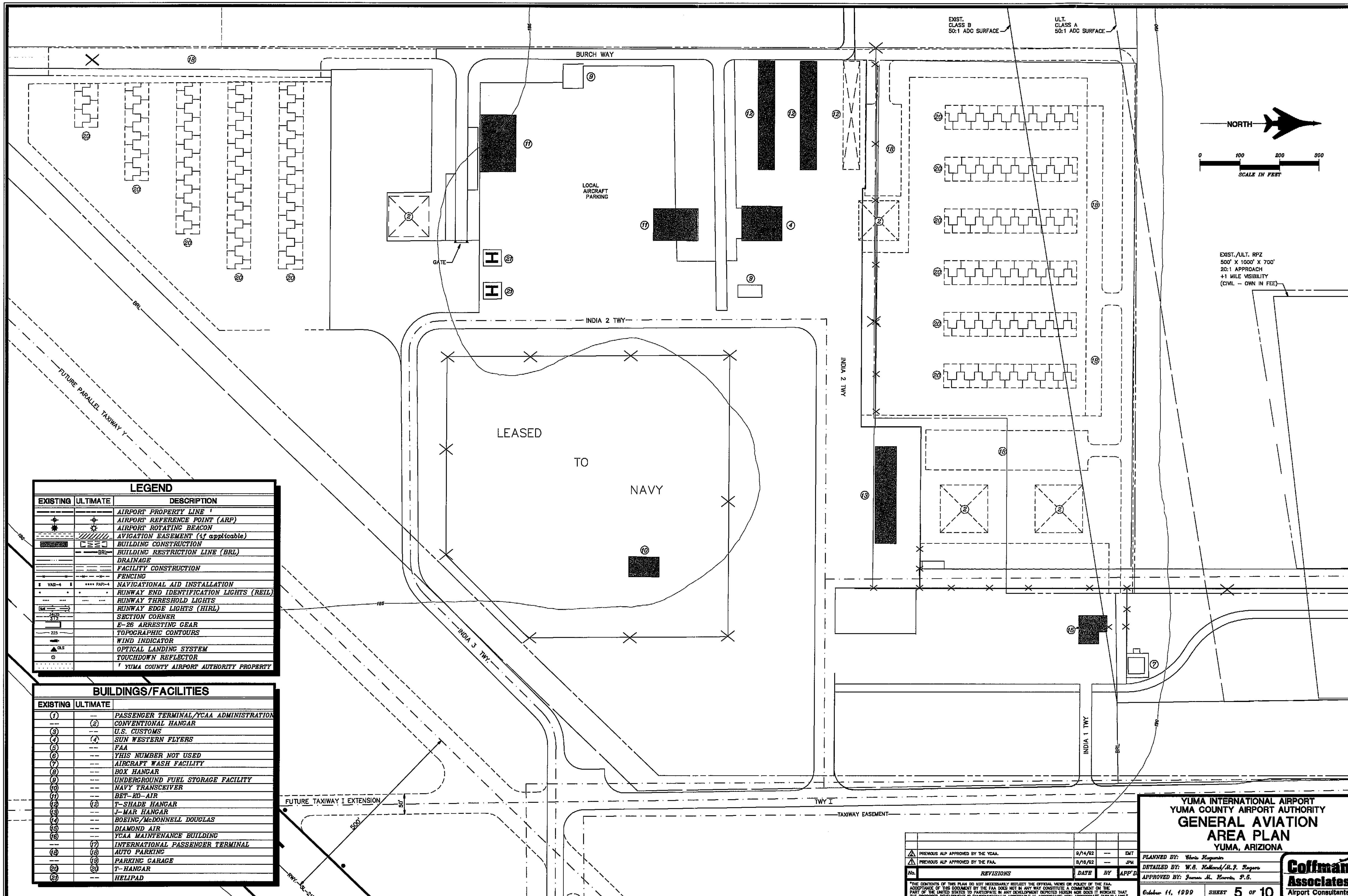
AIR CARGO FACILITY PLAN

YUMA, ARIZIONA

PLANNED BY: Chris Hugunin
DETAILED BY: W.S. Holland
APPROVED BY: James M. Harris, P.E.

August 13, 1998 SHEET 4 OF 10

Coffman Associates
Airport Consultants



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE [1]
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		RUNWAY EDGE LIGHTS (HIRL)
34 35 / 3 2		SECTION CORNER
		E-26 ARRESTING GEAR
225		TOPOGRAPHIC CONTOURS
		WIND INDICATOR
OLS		OPTICAL LANDING SYSTEM
		TOUCHDOWN REFLECTOR
		[1] YUMA COUNTY AIRPORT AUTHORITY PROPERTY

BUILDINGS/FACILITIES

EXISTING	ULTIMATE	
(1)	--	PASSENGER TERMINAL/YCAA ADMINISTRATION
--	(2)	CONVENTIONAL HANGAR
(3)	--	U.S. CUSTOMS
(4)	(4)	SUN WESTERN FLYERS
(5)	--	FAA
(6)	--	YHIS NUMBER NOT USED
(7)	--	AIRCRAFT WASH FACILITY
(8)	--	BOX HANGAR
(9)	--	UNDERGROUND FUEL STORAGE FACILITY
(10)	--	NAVY TRANSCEIVER
(11)	--	BET-KO-AIR
(12)	(12)	T-SHADE HANGAR
(13)	--	J-MAR HANGAR
(14)	--	BOEING/McDONNELL DOUGLAS
(15)	--	DIAMOND AIR
(16)	--	YCAA MAINTENANCE BUILDING
--	(17)	INTERNATIONAL PASSENGER TERMINAL
(18)	(18)	AUTO PARKING
--	(19)	PARKING GARAGE
(20)	(20)	T-HANGAR
(21)	--	HELIPAD

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	—	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/16/92	—	JPM

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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

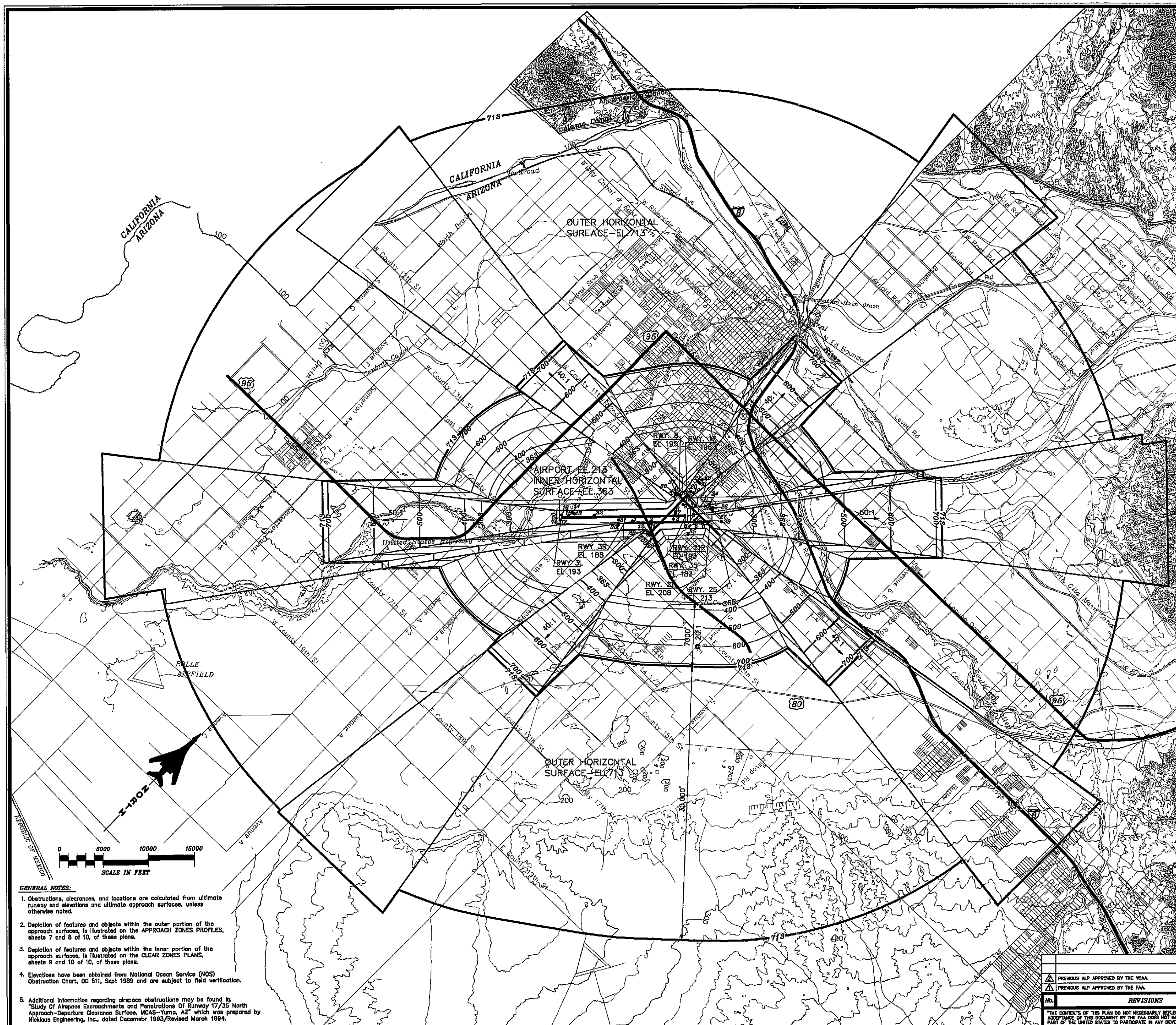
GENERAL AVIATION AREA PLAN

YUMA, ARIZONA

PLANNED BY: Chris Huguenin
DETAILED BY: W.S. Holland/M.J. Rogers
APPROVED BY: James M. Harris, P.E.

October 11, 1999 SHEET 5 OF 10

Coffman Associates Airport Consultants



GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONES PROFILES, sheets 7 and 8 of 10, of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the CLEAR ZONES PLANS, sheets 9 and 10 of 10, of these plans.
4. Elevations have been obtained from National Ocean Service (NOS) Obstruction Chart, OC 511, Sept 1989 and are subject to field verification.
5. Additional information regarding airspace obstructions may be found in "Study Of Airspace Encroachments and Penetrations Of Runway 17/35 North Approach-Departure Clearance Surface, MCAS-Yuma, AZ" which was prepared by Nicklaus Engineering, Inc., dated Decemebr 1993/Revised March 1994.

OBSTRUCTION TABLE

Description	Elevation (MSL)	Obstruction	Disposition	Runway
1. WINDSOCK	UP TO 203'	14' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	3L-21R
2. SIGN	UP TO 191'	7' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED-NAVAID	3R-21L
3. WINDSOCK	UP TO 212'	20' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	3L-21R
4. SIGN	UP TO 208'	8' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED-NAVAID	3R-21L
5. SIGN	UP TO 208'	8' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED-NAVAID	3R-21L
6. WINDSOCK	UP TO 224'	18' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	3R-21L
7. CANOPY POLE	UP TO 213'	23' OBSTRUCTION TO THE PRIMARY SURFACE	LIGHTED	3L-21R
8. GLIDESLOPE ANT OL	UP TO 223'	34' OBSTRUCTION TO THE PRIMARY SURFACE	LIGHTED	17-35
9. ANEMOMETER OL	UP TO 216'	22' OBSTRUCTION TO THE PRIMARY SURFACE	LIGHTED	17-35
10. WINDSOCK	UP TO 212'	16' OBSTRUCTION TO THE PRIMARY SURFACE	TO BE RELOCATED	17-35
11. BUSH	UP TO 190'	10' OBSTRUCTION TO THE PRIMARY SURFACE	REMOVE	17-35
12. WINDSOCK	UP TO 198'	15' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	17-35
13. BUSH	UP TO 202'	10' OBSTRUCTION TO THE PRIMARY SURFACE	REMOVE	3L-21R
14. GLIDESLOPE ANT OL	UP TO 235'	43' OBSTRUCTION TO THE PRIMARY SURFACE	LIGHTED	3L-21R
15. WINDSOCK	UP TO 212'	19' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	3L-21R
16. RADAR REFLECTOR	UP TO 206'	13' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED-NAVAID	3L-21R
17. RUBBLE	UP TO 195'	2' OBSTRUCTION TO THE PRIMARY SURFACE	REMOVE	3L-21R
18. WINDSOCK	UP TO 213'	18' OBSTRUCTION TO THE PRIMARY SURFACE	TO BE RELOCATED	8-26
19. SIGN	UP TO 213'	3' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE	17-35
20. ROAD	UP TO 200'	7' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	17-35
21. TREE	UP TO 283'	42' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17-35
22. TREE	UP TO 282'	41' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17-35
23. TREE	UP TO 271'	20' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17-35
24. ANTENNA OL	UP TO 296'	1' OBSTRUCTION TO THE TRANSITION SURFACE	LIGHTED	3L-21R
25. TREE	UP TO 270'	24' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	3L-21R
26. BUSH	UP TO 266'	17' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	3L-21R
27. WINDMILL	UP TO 256'	7' OBSTRUCTION TO THE APPROACH SURFACE	RELOCATE OR LIGHT	3L-21R
28. BUSH	UP TO 189'	5' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17-35
29. BUSH	UP TO 193'	7' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17-35
30. TACAN OL	UP TO 216'	18' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3R-21L
31. RADAR OL	UP TO 217'	18' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3R-21L
32. ARRESTING GEAR	UP TO 199'	3' OBSTRUCTION TO THE PRIMARY SUFACE	LIGHT	3L-21R
33. BUILDING OL	UP TO 210'	3' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3L-21R
34. LOCALIZER OL	UP TO 207'	1' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3L-21R
35. ATCT OL	UP TO 347'	32' OBSTRUCTION TO THE TRANSITION SURFACE	LIGHTED	3R-21L
36. FENCE	UP TO 202'	1' OBSTRUCTION TO THE APPROACH SURFACE	TO BE RELOCATED	08-26
37. ROAD	UP TO 208'	5' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	08-26
~~38. SIGNS~~	~~UP TO 241.4'~~	~~3.4' OBSTRUCTION TO THE APPROACH SURFACE~~	~~REMOVE OR LIGHT~~	~~08-26~~
39. ROAD	UP TO 225'	12' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	3R-21L

OBSTRUCTION LEGEND

•[1] OBSTRUCTION

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	—	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/18/92	—	JPM

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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

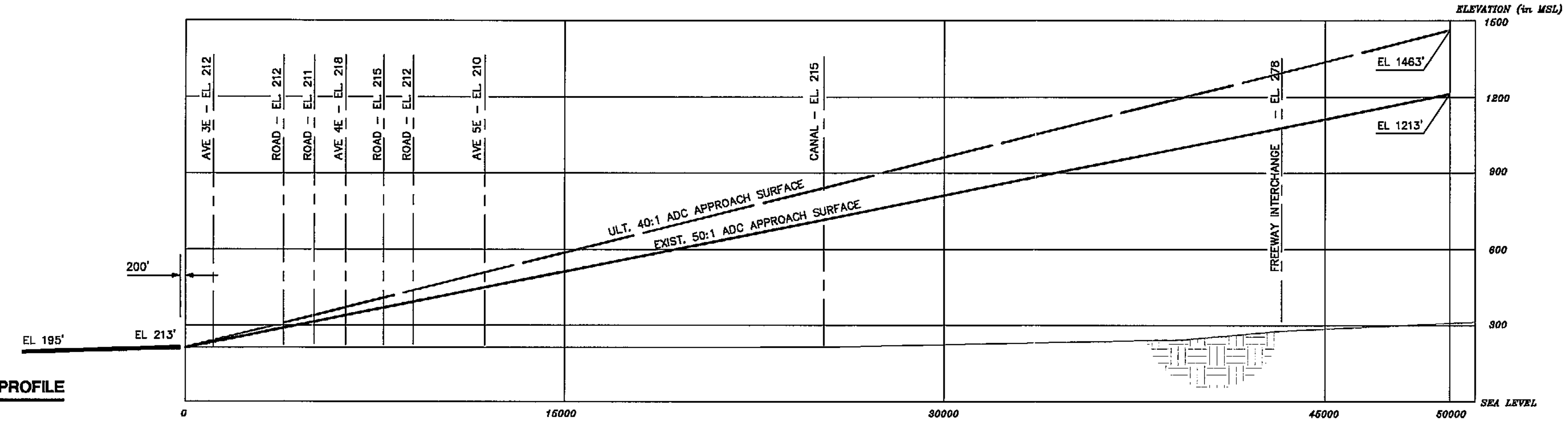
PART 77 AIRSPACE PLAN

YUMA, ARIZIONA

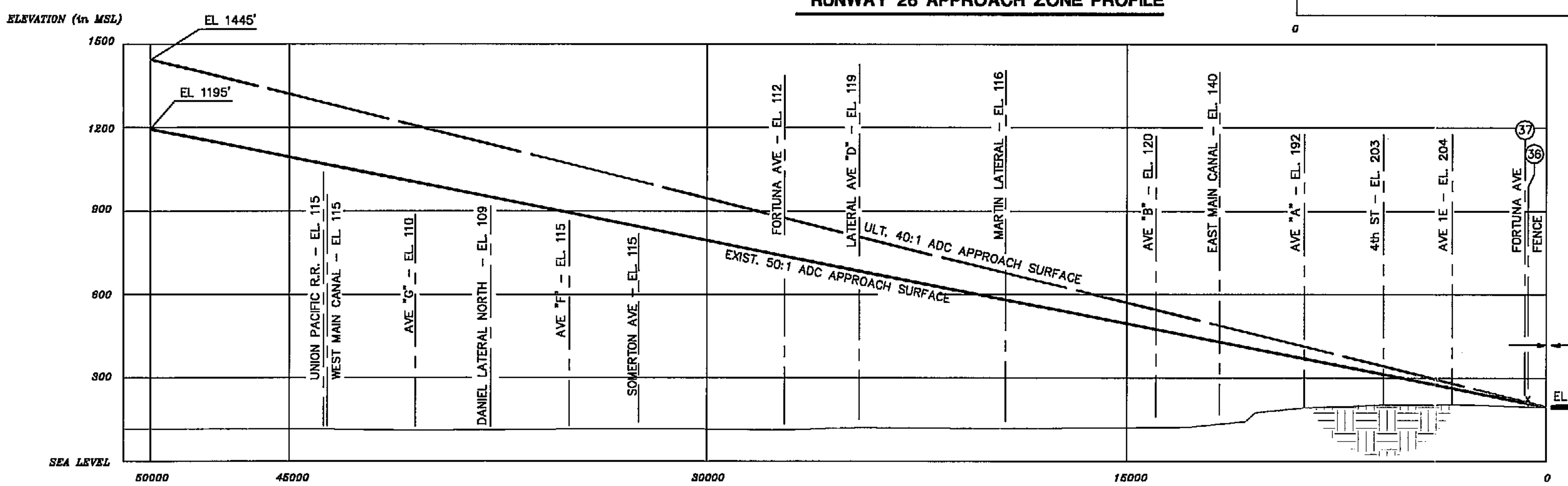
PLANNED BY: Chris Huguenin
DETAILED BY: W.S. Holland
APPROVED BY: James M. Harris, P.E.

October 5, 1999 — *SHEET* 6 *OF* 10

Coffman Associates
Airport Consultants



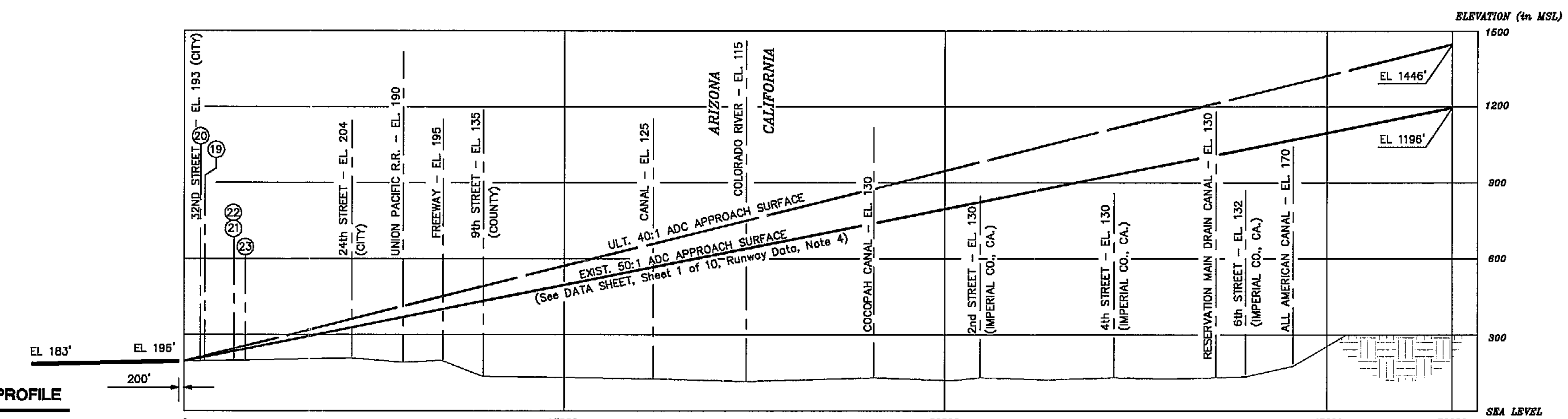
RUNWAY 26 APPROACH ZONE PROFILE



RUNWAY 8 APPROACH ZONE PROFILE

OBSTRUCTION TABLE

Description	Elevation (MSL)	Obstruction	Disposition	Runway
19. SIGN	UP TO 213'	3' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE	17–35
20. ROAD	UP TO 200'	7' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	17–35
21. TREE	UP TO 283'	42' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
22. TREE	UP TO 282'	41' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
23. TREE	UP TO 271'	20' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
28. BUSH	UP TO 189'	5' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
29. BUSH	UP TO 193'	7' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
36. FENCE	UP TO 202'	1' OBSTRUCTION TO THE APPROACH SURFACE	TO BE RELOCATED	08–26
37. ROAD	UP TO 208'	5' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	08–26
~~38. SIGNS~~	~~UP TO 241.4'~~	~~3.4 OBSTRUCTION TO THE APPROACH SURFACE~~	~~TO BE LIGHTED OR REMOVED~~	~~08–26~~



RUNWAY 17 APPROACH ZONE PROFILE

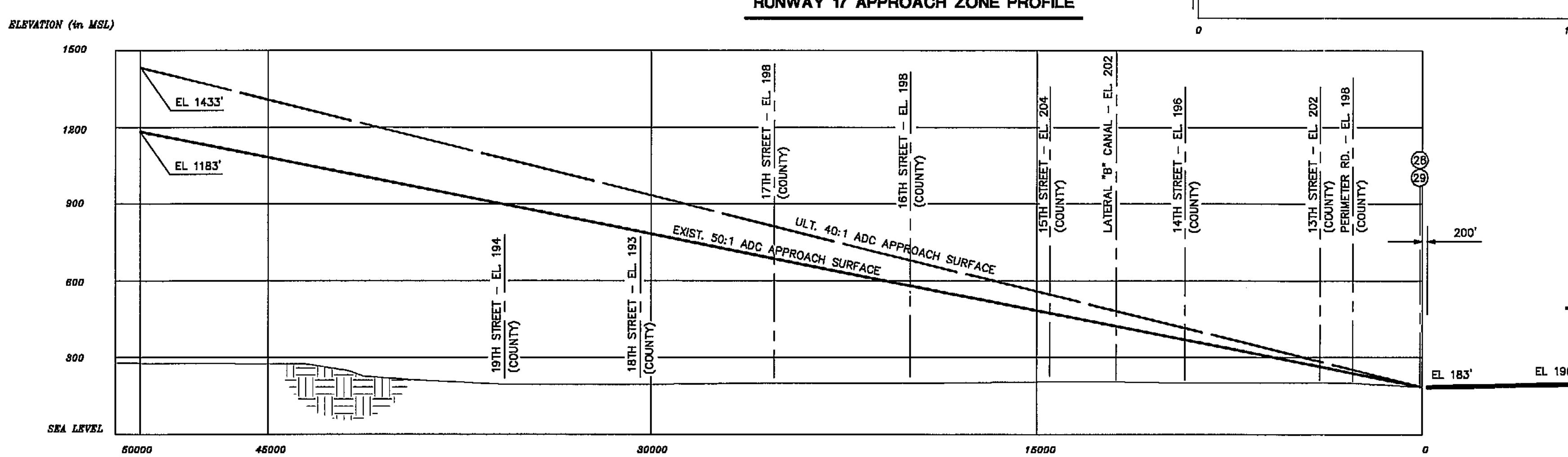
EXISTING
CLASS B 50:1 ADC
SURFACE (See DATA
SHEET, Sheet 1 of 10,
Runway Data, Note 4)

NOTES:

1. Approach Zone profiles depict significant cultural features and objects along the runway centerline. The profile elevation depicts the highest object/terrain left or right of the runway centerline within the approach zone trapezoid.
2. ADC signifies Approach–Departure Clearance (Military).

HORIZONTAL SCALE: 0 3000 6000 9000 SCALE IN FEET

VERTICAL SCALE: 0 300 600 900 SCALE IN FEET



RUNWAY 35 APPROACH ZONE PROFILE

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	--	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/16/92	--	JPM

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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

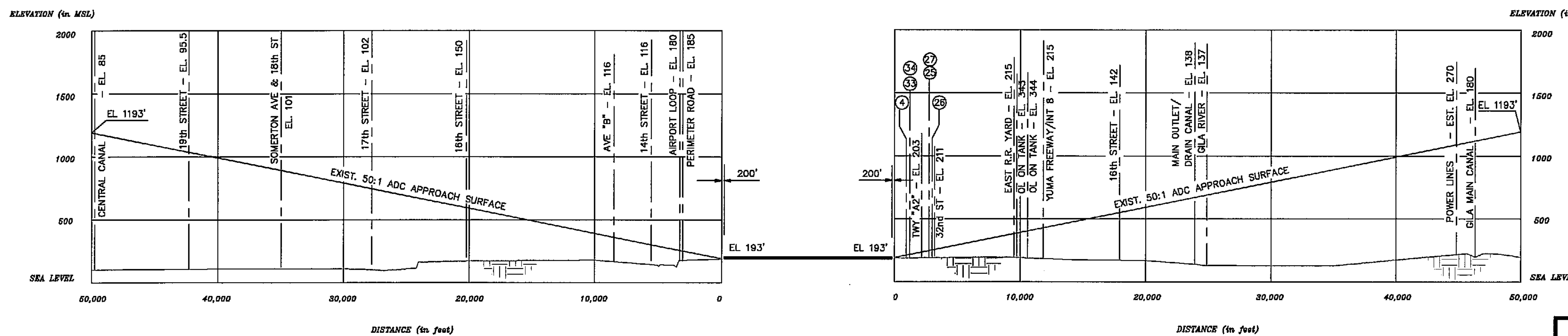
APPROACH PROFILES
RUNWAYS 8-25 and 17-35

YUMA, ARIZONA

PLANNED BY: Chris Hugunin
DETAILED BY: W.S. Holland
APPROVED BY: James M. Harris, P.E.

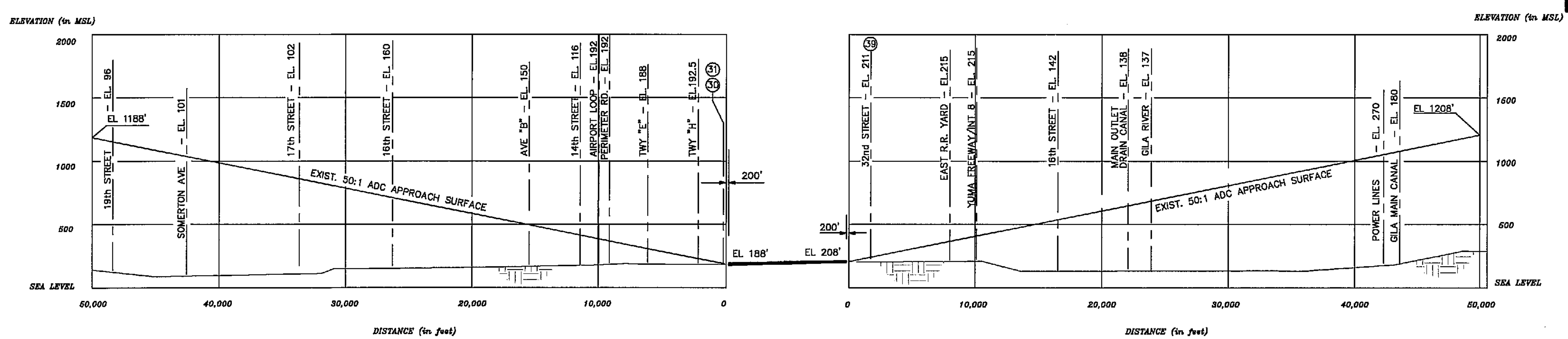
February 10, 1999 SHEET 7 OF 10

Coffman Associates
Airport Consultants



RUNWAY 3L-21R APPROACH ZONE PROFILE

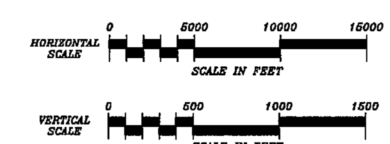
OBSTRUCTION TABLE				
Description	Elevation (MSL)	Obstruction	Disposition	Runway
4. SIGN	UP TO 208'	8' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED-NAVAID	3R-21L
25. TREE	UP TO 270'	24' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	3L-21R
26. BUSH	UP TO 266'	17' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	3L-21R
27. WINDMILL	UP TO 256'	7' OBSTRUCTION TO THE APPROACH SURFACE	RELOCATE OR LIGHT	3L-21R
30. TACAN OL	UP TO 216'	18' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3R-21L
31. RADAR OL	UP TO 217'	18' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3R-21L
33. BUILDING OL	UP TO 210'	3' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3L-21R
34. LOCALIZER OL	UP TO 207'	1' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3L-21R
39. ROAD	UP TO 225'	12' OBSTRUCTION TO THE APPROACH SURFACE	DISPLACE THRESHOLD 575'	3R-21L



RUNWAY 3R-21L APPROACH ZONE PROFILE

NOTES:

1. Approach Zone profiles depict significant cultural features and objects along the runway centerline. The profile elevation depicts the highest object/terrain left or right of the runway centerline within the approach zone trapezoid.
2. ADC signifies Approach-Departure Clearance (Military).



No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	--	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/16/92	--	JPM

"THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

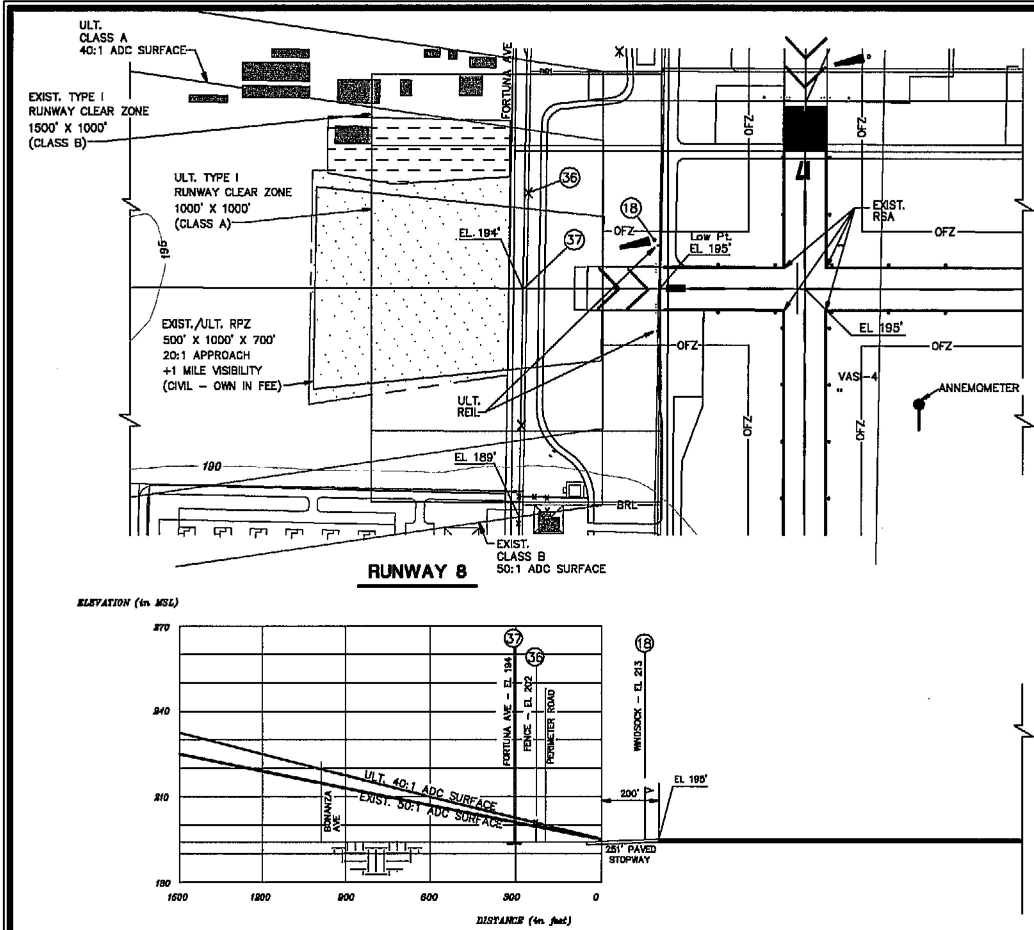
APPROACH PROFILES RUNWAYS 3L-21R and 3R-21L

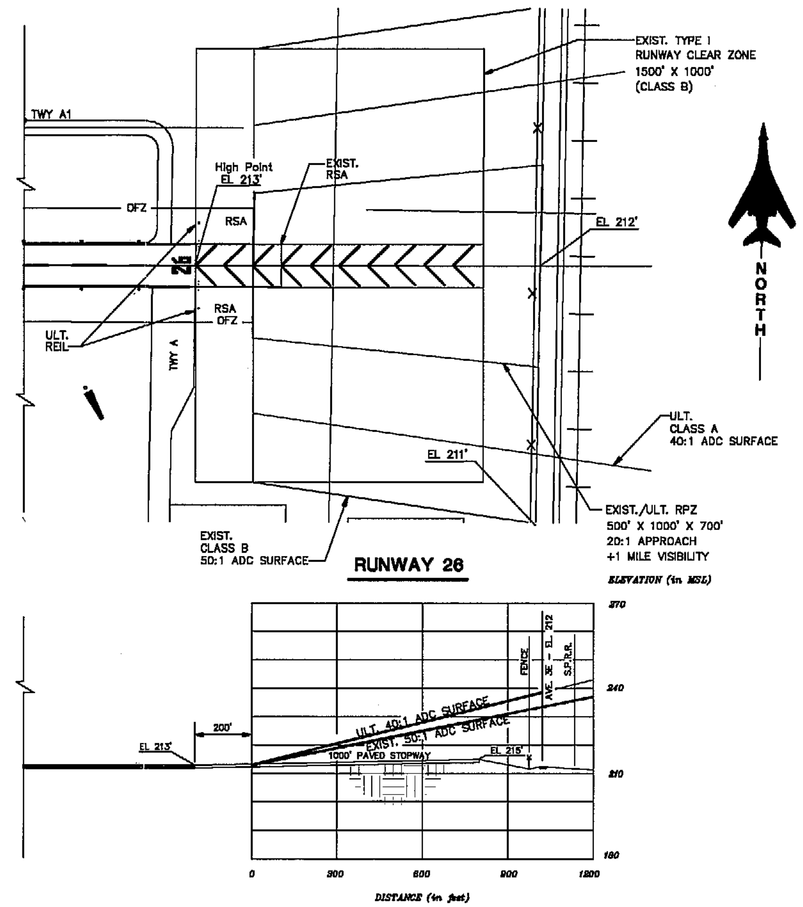
YUMA, ARIZIONA

PLANNED BY: Chris Huguenin
DETAILED BY: W.S. Holland
APPROVED BY: James M. Harris, P.E.

August 14, 1998 — SHEET 8 OF 10

Coffman Associates
Airport Consultants





RUNWAY 8-26 PLANS and PROFILES

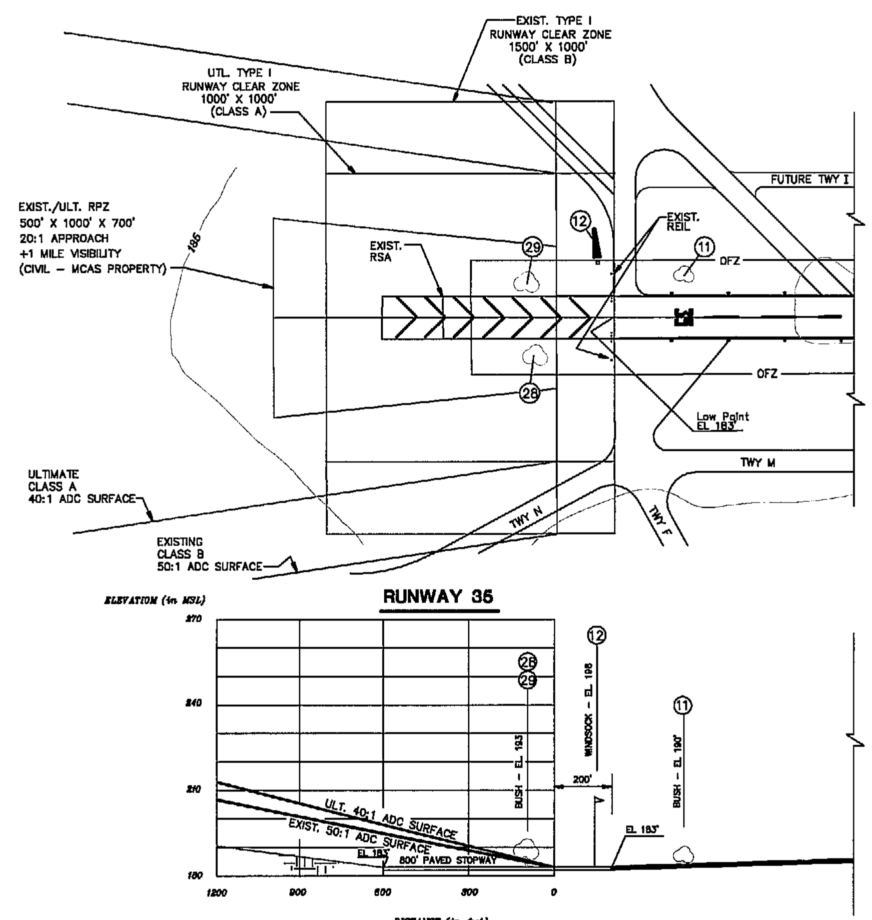
OBSTRUCTION TABLE				
Description	**Elevation (MSL)**	**Obstruction**	**Disposition**	**Runway**
10. WINDSOCK	UP TO 212'	16' OBSTRUCTION TO THE PRIMARY SURFACE	TO BE RELOCATED	17–35
11. BUSH *	UP TO 190'	10' OBSTRUCTION TO THE PRIMARY SURFACE	REMOVE	17–35
12. WINDSOCK	UP TO 198'	15' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	17–35
18. WINDSOCK	UP TO 213'	18' OBSTRUCTION TO THE PRIMARY SURFACE	TO BE RELOCATED	8–26
19. SIGN	UP TO 213'	3' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE	17–35
20. ROAD	UP TO 200'	7' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	17–35
28. BUSH	UP TO 189'	5' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
29. BUSH	UP TO 193'	7' OBSTRUCTION TO THE APPROACH SURFACE	REMOVE	17–35
36. FENCE	UP TO 202'	1' OBSTRUCTION TO THE APPROACH SURFACE	TO BE RELOCATED	08–26
37. ROAD	UP TO 208'	5' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	08–26

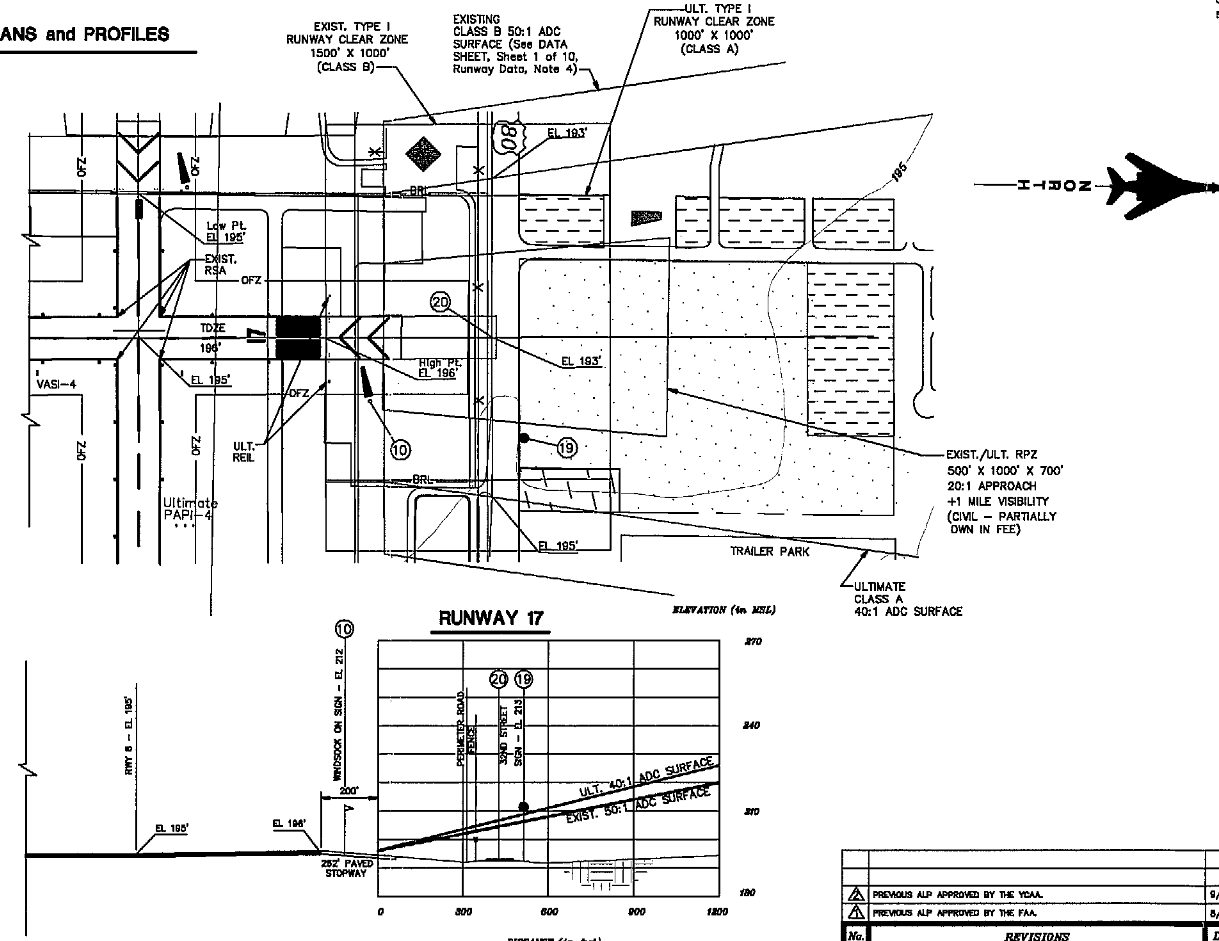
* OBSTRUCTION TO THE PRIMARY SURFACE ONLY.

NORTH

GENERAL NOTES:

1. Obstructions, clearances, and locations are based on OC 511, Feb. 1989, and calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the PART 77 AIRSPACE PLAN, sheet 6 of 10, of these plans.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONES PROFILES, sheet 7 of 10, of these plans.





RUNWAY 17-35 PLANS and PROFILES

HORIZONTAL SCALE: 0 300 600 900 — SCALE IN FEET

VERTICAL SCALE: 0 30 60 90 — SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	--	EMT
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YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

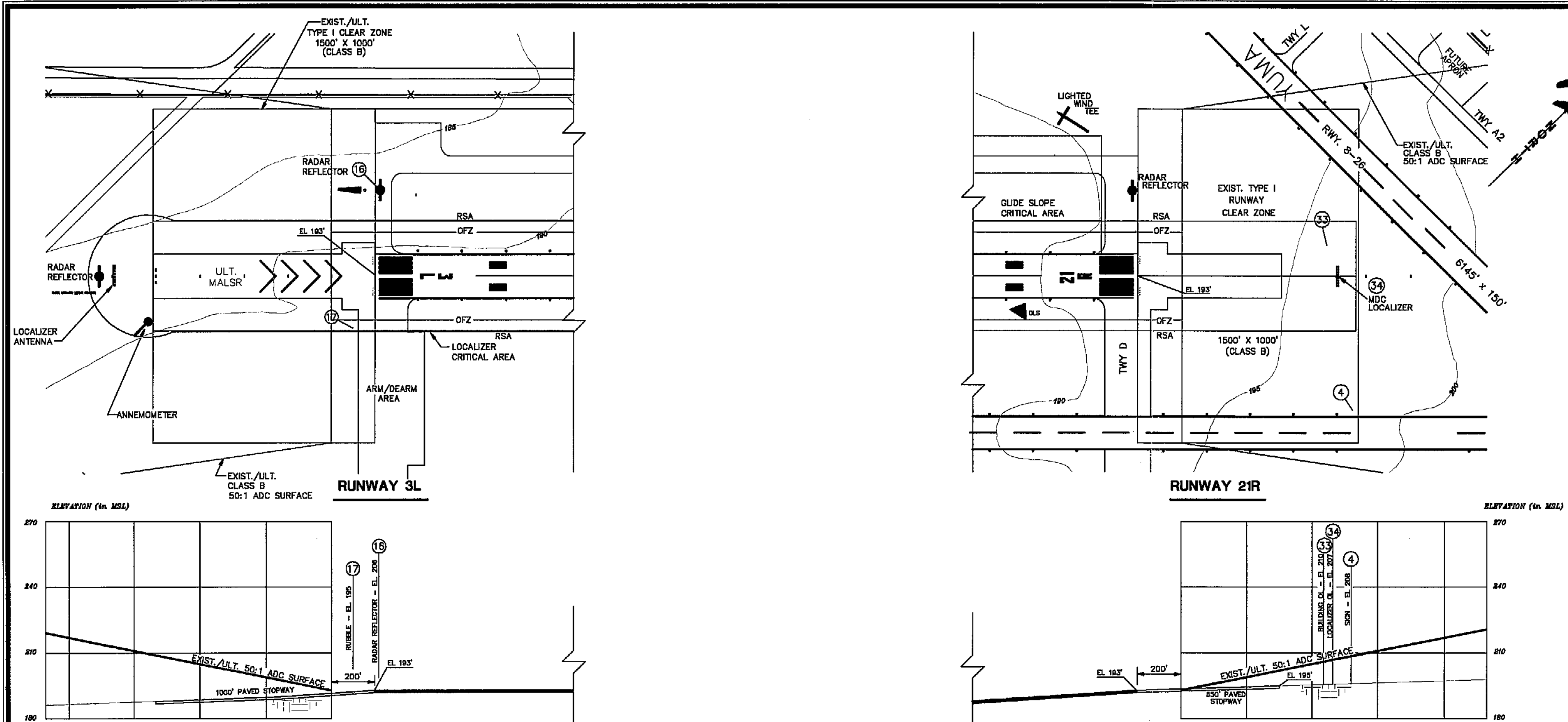
CLEAR ZONES PLAN RUNWAYS 8-26 and 17-35

YUMA, ARIZIONA

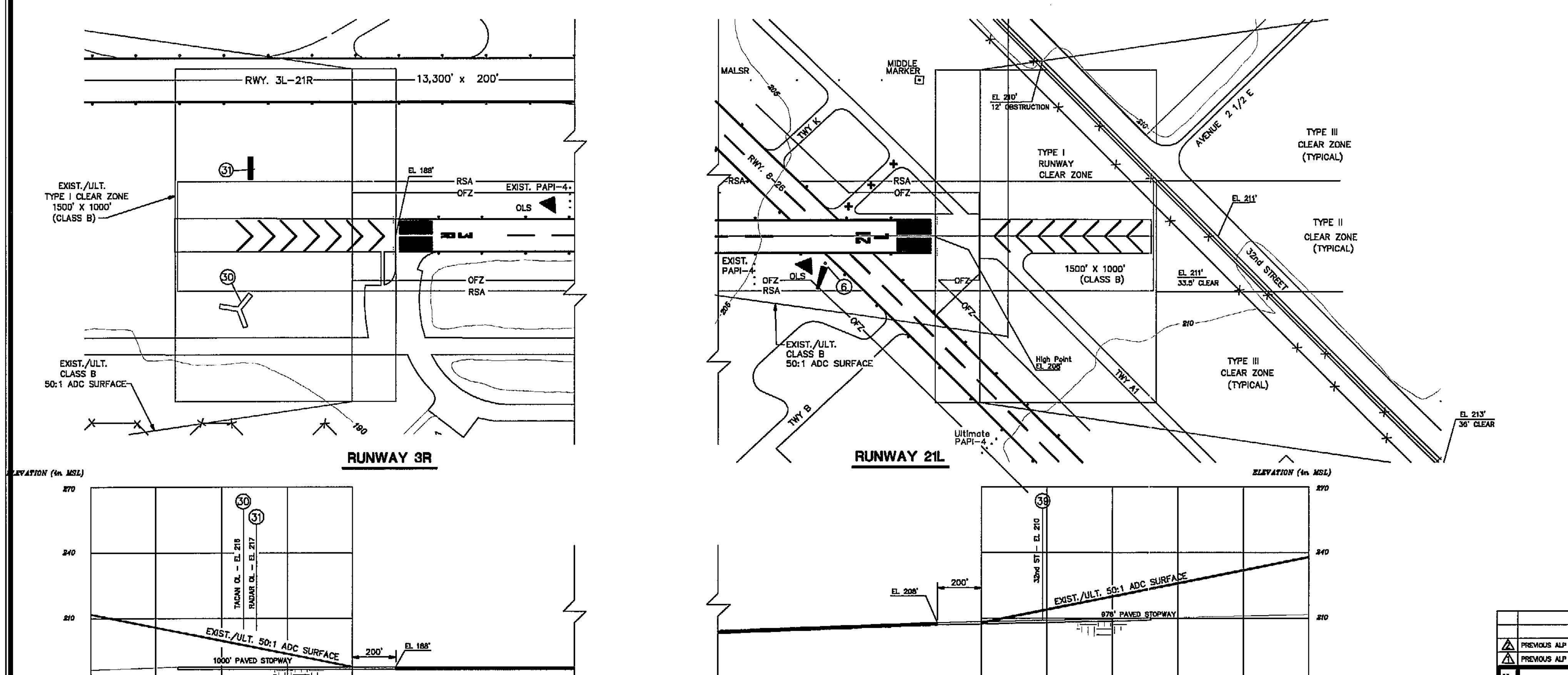
PLANNED BY: Chris Huguenin
DETAILED BY: W.S. Holland/M.J. Rogers
APPROVED BY: James M. Harris, P.E.

September 24, 1999 — SHEET 9 OF 10

Coffman Associates Airport Consultants



RUNWAY 3L-21R CLEAR ZONES PLANS & PROFILES



RUNWAY 3R-21L CLEAR ZONES PLANS & PROFILES

OBSTRUCTION TABLE

Description	Elevation (MSL)	Obstruction	Disposition	Runway
4. SIGN	UP TO 208'	8' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED–NAVAID	3R–21L
6. WINDSOCK *	UP TO 224'	18' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	3R–21L
15. WINDSOCK *	UP TO 212'	19' OBSTRUCTION TO THE PRIMARY SURFACE	RELOCATE OR LIGHT	3L–21R
16. RADAR REFLECTOR	UP TO 206'	13' OBSTRUCTION TO THE PRIMARY SURFACE	NOTED–NAVAID	3L–21R
17. RUBBLE	UP TO 195'	2' OBSTRUCTION TO THE PRIMARY SURFACE	REMOVE	3L–21R
30. TACAN OL GEAR	UP TO 216'	18' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3R–21L
31. RADAR OL	UP TO 217'	18' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3R–21L
33. BUILDING OL	UP TO 210'	3' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3L–21R
34. LOCALIZER OL	UP TO 207'	1' OBSTRUCTION TO THE APPROACH SURFACE	LIGHTED	3L–21R
39. 32nd St.	UP TO 225'	12' OBSTRUCTION TO THE APPROACH SURFACE	REQUEST AERONAUTICAL STUDY	3R–21L

* OBSTRUCTIONS TO THE PRIMARY SURFACE ONLY

GENERAL NOTES:

1. Obstructions, clearances, and locations are based on OC 511, Feb. 1989, and calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the PART 77 AIRSPACE PLAN, sheet 5 of 9, of these plans.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONES PROFILES, sheet 7 of 9, of these plans.

HORIZONTAL SCALE 0 300 600 900 SCALE IN FEET

VERTICAL SCALE 0 30 60 90 SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
2	PREVIOUS ALP APPROVED BY THE YCAA.	9/14/92	--	EMT
1	PREVIOUS ALP APPROVED BY THE FAA.	8/10/92	--	JPM

YUMA INTERNATIONAL AIRPORT
YUMA COUNTY AIRPORT AUTHORITY

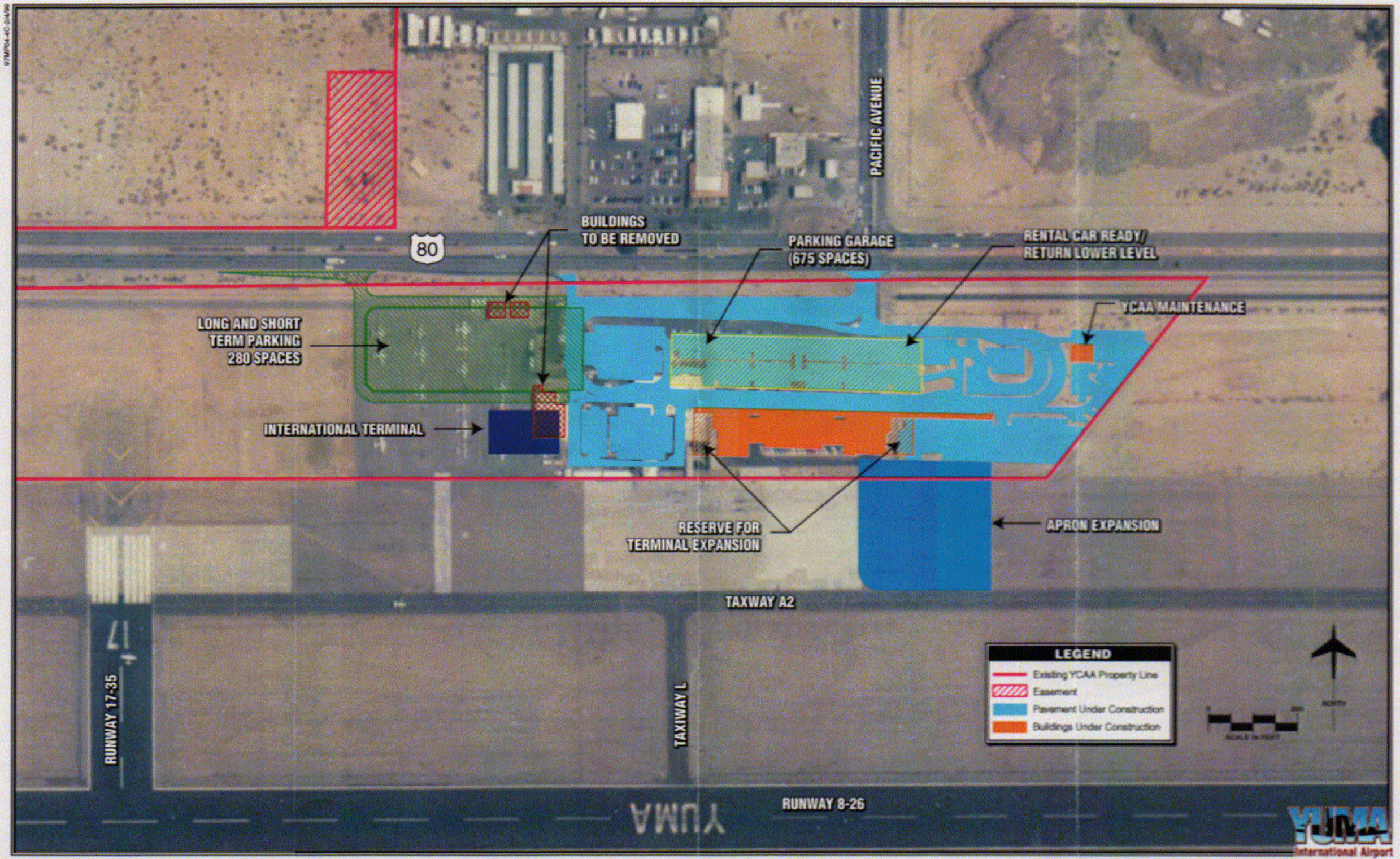
CLEAR ZONES PLAN
RUNWAYS 3L-21R and 3R-21L

YUMA, ARIZIONA

PLANNED BY: Chris Huguenin
DETAILED BY: W.E. Holland
APPROVED BY: James M. Harris, P.E.

February 2, 1999

Coffman Associates
Airport Consultants



YUMA International Airport

Exhibit 4C

RECOMMENDED TERMINAL ALTERNATIVE

Land Use Plan

City and County of Yuma, Arizona

- Agriculture
- Resort, Recreation & Open Space
- Rural Density Residential (1du/5ac - 2du/1ac) 2 Acre Min. Within Suburban Development Study Area
- Suburban Density Residential (1du/2ac - 3du/ac)
- Low Density Residential (1-6du/ac)
- Medium Density Residential (7-12du/ac)
- High Density Residential (13-18du/ac)
- Mixed Use
- Commercial
- Business Park
- Industrial
- Agriculture / Industrial
- Public / Quasi Public
- Non Conformity
- Runway Approach-Departure Safety Area / Airport Industrial Overlay District "RADSA/AIOD"
- Arrival / Departure Flight Tracks
- Suburban Development Study Area
- Major Canals
- Overflight Pattern
- Area Service Highway Interchange

BLM = Bureau of Land Management

Adopted: City Resolution R96-38 9/12/96
Adopted: County Resolution R96-65 9/12/96

N W E S

1 0 1 Miles

YUMA International Airport

Exhibit 4J
JOINT LAND USE PLAN